FINAL REPORT

HARBOR MANAGEMENT PLAN
for
HEMPSTEAD HARBOR

Prepared for:

HEMPSTEAD HARBOR PROTECTION COMMITTEE

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HARBOR MANAGEMENT PLAN FOR HEMPSTEAD HARBOR

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CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

Hempstead Harbor is an arm of Long Island Sound, located on the north shore of Long Island. The shoreline of the harbor includes parts of eight different municipalities, which are listed as follows, running counterclockwise from the northwest corner of the harbor: Village of Sands Point, Port Washington area of the Town of North Hempstead, Village of Flower Hill, Village of Roslyn, Village of Roslyn Harbor, Glenwood Landing (which spans between the Towns of North Hempstead and Oyster Bay), Village of Sea Cliff, and City of Glen Cove. This multi-municipal jurisdictional setting creates the type of management challenge which in other areas has hindered real progress in advancing effective solutions to problems.

In recognizing their shared interests and the benefits that can be derived from inter-municipal and inter-agency cooperation, the Hempstead Harbor communities established the Hempstead Harbor Protection Committee (HHPC) in 1995. The HHPC has overseen the preparation of a *Water Quality Improvement Plan* for Hempstead Harbor, which was completed in 1998, and subsequently has been a critical catalyst for advancing (and obtaining outside funding for) a wide range of projects across the harbor's communities. Most recently, the HHPC, in conjunction with the New York State Department of State, has served as the advisory/steering committee for the preparation of this Harbor Management Plan.

Hempstead Harbor is a relatively narrow embayment, especially in its lower reaches. The harbor width is less than one-half mile as far north as Sea Cliff, which is located about three miles north of the mouth of the creek (i.e., Roslyn Creek) at the head of the harbor. From there, the harbor widens progressively towards its mouth, attaining a width of about a mile at Morgan Memorial Park in Glen Cove and about four and one-half miles at the harbor mouth (i.e., along the line spanning between Prospect Point in the Village of Sands Point and Matinecock Point in the City of Glen Cove). This overall configuration, as well as the presence of the Bar Beach spit (which extends about two-thirds of the way across the harbor from its western shore at a distance of about one and one-half miles from the mouth of Roslyn Creek), protects the lower portion of Hempstead Harbor from storm waves under most circumstances.

Because of its sheltered nature, and the abundant natural resources present, Hempstead Harbor was favored by indigenous peoples, who first may have appeared in this area as

early as 3500 B.C. Later, the harbor became an important focal point of colonial settlement, with bustling centers of maritime commerce springing up at Roslyn and Glen Cove and homesteads established in the surrounding area. The status of Roslyn as a maritime center declined dramatically in the latter half of the 1800s due to shoaling caused primarily by sediment discharges that were accelerated by development and other human activities in the adjacent uplands. However, other portions of the harbor — notably including Glen Cove Creek, Glenwood Landing, and the western shoreline in the Port Washington area — continued to support a booming maritime commercial/industrial base.

Within the last few decades, economic conditions and other factors have resulted in the demise of many once-prominent industries along the Hempstead Harbor shoreline, and the gradual transformation of derelict industrial sites to other uses that generally are less intense than had previously operated on these locations. While support for this trend has been virtually unanimous among the harbor's communities, who have sought for many years to have the affected properties converted to productive reuse, the transformation has not been an easy one. Many of the involved sites became significantly contaminated during the industrial era, with several such parcels still needing substantial, and costly, remediation before they are ready for redevelopment.

The enduring need for water-dependent commercial uses in the Hempstead Harbor area remains evident. Such uses have no alternative but to be located at the shorefront, since they require direct access to the water in order to function. Hempstead Harbor remains well-suited to such uses, in terms of navigational considerations, with deep waters remaining at Glenwood Landing, along the Port Washington shoreline, and in the federally-maintained Glen Cove Creek channel. Many such uses (e.g., petroleum and aggregate shipments, marine salvage, marinas, boat yards, etc.) continue to operate in these areas, providing important services to the surrounding communities and the region, and making significant contributions to the local economy and tax base.

Recreational boating is an important activity in Hempstead Harbor. During a typical recent boating season, the harbor has accommodated a combined total of approximately 1,300 recreational vessels in moorings and dockage, about 80 percent of which are accounted for by public and private marina slips.

The harbor also continues to serve a vital function for other recreational activities for the residents of the surrounding area, as it has for many years, with abundant beaches, parks, historic landmarks, and other such facilities. In fact, there has been a pronounced trend in recent years for the expenditure of public funds to expand and enhance the harbor's recreational assets, including completed and planned land acquisitions, facility improvements, augmented linkages, and similar actions. Additionally, focus has been

placed on the restoration of ecological resources in and around the harbor, including habitat restoration initiatives and stormwater mitigation projects, in an effort to reverse damages that resulted from past activities.

The primary challenge for the future of Hempstead Harbor will be to achieve an appropriate balance among the diverse interests that benefit from the harbor's myriad assets. This can only be attained by means of a coordinated program of actions by the harbor's municipalities, in cooperation with other involved agencies, to address issues that are hindering achievement of harbor management goals and to take advantage of available opportunities for advancing these goals.

1.2 HARBOR MANAGEMENT PLAN SCOPE

The information presented in the remainder of this document is outlined briefly as follows:

Chapter 1

Section 1.3 — Delineation of the Harbor Management Plan boundary

Section 1.4 — Summary of the planning process, including authority for the preparation of the plan and public input opportunities

Section 1.5 — Enumeration of the goals of this HMP

Section 1.6 — Description of the benefits that the municipalities derive from completing the HMP

Chapter 2 — Synopsis of the roles played by the public agencies and private organizations that are expected to be involved in actions to implement this HMP.

Chapter 3 — Comprehensive inventory of existing conditions in the HMP study area.

Chapter 4 — Report prepared under the New York State Quality Communities program. This investigation provides a more detailed analysis of a number of properties in the HMP study area which possess significant development or redevelopment potential, and which collectively will play a critical role in the future economic vitality and community quality of the Hempstead Harbor area.

Chapter 5 — Analysis of issues of concern in the HMP study area.

Section 5.1 — Identification of key issues, arranged by harbor management goal

Section 5.2 — Discussion of results of questionnaire surveys conducted as part of this HMP

Chapter 6 — Harbor management recommendations, including a table of implementation priorities based on analysis by the member municipalities.

1.3 HARBOR MANAGEMENT PLAN BOUNDARY

As described in Section 1.1, the study area comprises the harborfront portions of eight local municipalities (two towns, five villages, and one city), and includes the entire water area of Hempstead Harbor, with the northern boundary being defined by a line extending between Prospect Point in the Village of Sands Point on the west side and Matinecock Point in the City of Glen Cove on the east side. In accordance with the State guidelines for Harbor Management Plans, the study area automatically includes all waterfront parcels, but in this case has been expanded somewhat to include certain inland parcels that were considered by the HHPC to be important and relevant to the harbor management goals. The final HMP boundary is illustrated on Map 3.1 (in Chapter 3 of this report).

1.4 HARBOR MANAGEMENT PLANNING PROCESS

In 1992, the New York State Legislature adopted an amendment to the Waterfront Revitalization and Coastal Resources Act (Article 42 of the Executive Law) that enhances the ability of municipalities to effectively manage the waterways within their jurisdiction through the preparation of a Harbor Management Plan (HMP). After the 1992 amendment to Article 42 was passed, the New York State Department of State (NYSDOS) developed and issued *Guidelines for the Preparation of Harbor Management Plans*. This HMP has been prepared in accordance with those *Guidelines*.

Technical assistance to the HHPC in completing this HMP has been provided by Cashin Associates, P.C., whose work has been supported by an Environmental Protection Fund grant awarded and administered by NYSDOS. This report also contains the product of a planning initiative under the New York State Quality Communities program, which has been funded by a distinct NYSDOS grant, but is closely related to the Harbor Management Plan. The Quality Communities component of this plan is presented separately as Chapter 4 of this document.

As noted previously, the HHPC, in conjunction with NYSDOS, has served as an advisory/steering committee for the preparation of this Harbor Management Plan. The HHPC's membership includes representation from all nine municipalities (two towns, five villages, and one city, as well as Nassau County) that adjoin the harbor. However, the HMP, once "finalized" to the satisfaction of the HHPC, still will have to be presented to the legislative bodies of the involved municipalities for their official acceptance.

The preparation of this HMP was initiated when the Hempstead Harbor communities realized that there is a common need to address issues affecting the harbor and that only through a comprehensive planning process embodied in an HMP can effective solutions be achieved to the mutual benefit of all. Many of the individual municipalities have undertaken their own waterfront development or redevelopment plans to address local concerns; however, that type of planning can only provide solutions that are applicable to the limited waterfront area of the individual community that prepared the plan, and may not fully take into consideration harbor-wide issues. The HMP provides an effective tool for addressing issues that affect the entire harbor across municipal boundaries.

The contents of this HMP reflect input provided by the HHPC during a number of its regular meetings, including comments regarding draft versions of the report that were prepared by Cashin Associates. Additionally, separate meetings were held with representatives from the individual municipalities in order to discuss priority issues, concerns, and potential solutions, and to obtain relevant information for the inventory portion of the plan. In order to help members of the HHPC obtain a comprehensive view of relevant conditions in and around the harbor, a shoreline survey was conducted by boat on August 15, 2001, and the surrounding upland portion of the HMP study area was surveyed by bus (with stops at key locations) the following day.

Broader commentary for the HMP was received from area residents, businesses, and civic groups during a number of public meetings. On July 11, 2002 a special "stakeholders" meeting was held at Flower Hill Village Hall which was attended by local business and agency representatives. On September 26, 2002 a public meeting for area residents was held at Bryant Library in Roslyn. The participants at these two meetings received a draft version of harbor management goals and issues to guide the discussion; the public meeting also included a slide presentation to provide an overview of conditions around the harbor, including a description of key parcels of land on the waterfront. Additionally, a questionnaire survey was distributed to both groups. The stakeholders were mailed their surveys prior to the meeting, whereas the residents were given the surveys on the evening of the meeting, and allowed time to complete all of the questions. The resident survey subsequently was distributed to a wider audience via targeted mailings and other means of distribution by the HHPC, the Town of Oyster Bay, and local civic organizations. The results of the surveys are discussed in Section 5.2.

A draft Harbor Management Plan report was accepted by the HHPC on February 11, 2004 and subsequently was distributed for public review. A public hearing was held at the Bryant Library on March 2, 2004 to present a summary of the key elements of the HMP and to receive comments and answer questions. Appendix F contains a summary of this meeting. Thereafter, the HMP report was finalized based on comments received at the public hearing, as well as comments provided by NYSDOS. This final report has been accepted by the HHPC and, upon acceptance by NYSDOS, will be forwarded to the member municipalities for adoption.

1.5 HARBOR MANAGEMENT PLAN GOALS

Harbor management goals were developed to provide the overall framework for identifying key issues and formulating recommendations to address these issues; and, eventually, will be used for evaluating whether future actions are consistent with the HMP. Preliminary goals were drafted by Cashin Associates for consideration by the HHPC and, based on comments received, these goals were amended.

The guiding principle of the HMP is to provide a mechanism for the various municipalities that share Hempstead Harbor to work cooperatively in an effort to address priority issues related to the wise use and protection of the harbor's surface waters, natural resources, underwater lands, and shorefront. With this principle in mind, the following goals have been established for the Hempstead Harbor HMP, not necessarily listed in order of importance:

Goal #1: Ensure efficient and safe navigation and operating conditions in Hempstead Harbor.

Goal #2: Protect Hempstead Harbor's water-dependent uses, and promote the siting of new water-dependent uses at suitable locations, without impacting important natural resources.

Goal #3: Redevelop vacant and underutilized waterfront land on Hempstead Harbor with appropriate uses.

Goal #4: Increase water-related recreational opportunities within Hempstead Harbor and along the harbor's shoreline, and increase public access to the waterfront.

Goal #5: Protect and enhance Hempstead Harbor's natural environment and open space resources, including surface water quality, wetlands, coastal fish and wildlife habitats, upland natural areas, and important viewsheds.

Goal #6: Preserve important historical resources along the waterfront of Hempstead Harbor.

Goal #7: Improve linkages between the Hempstead Harbor waterfront and adjacent downtown areas.

Goal #8: Engage in a collaborative effort among the municipalities surrounding Hempstead Harbor, by means of innovative inter-municipal planning and community development techniques that link environmental protection, economic prosperity, and community well-being, so as to ensure effective long-term community, regional, and watershed vitality.

Goal #9: Recognize and build upon the unique characteristics and circumstances of Hempstead Harbor and its watershed in developing approaches to the following concepts: revitalizing existing communities and promoting livable neighborhoods; preserving open space and critical environmental resources; encouraging sustainable economic development; improving partnerships, service-sharing arrangements, and collaborative projects; and heightening public awareness.

Under each of these goals, the HHPC, with the assistance of Cashin Associates and with input from the public, identified a series of issues which represent problems that hinder or opportunities that would serve to advance each goal. The issues are described in Section 5.1.

1.6 BENEFITS OF A COMPLETED HARBOR MANAGEMENT PLAN

An adopted HMP, one that is fully supported by all of the municipalities involved, renders many advantages and benefits to those municipalities and their residents. Specifically, the HMP will become:

A Plan for Now and the Future to Achieve Agreed-Upon Objectives

The adopted HMP describes the wisest and best use of the harbor's resources. Each local government will be able to more effectively pursue agreed-upon actions for the harbor area in order to achieve common goals and objectives. Local officials also will be able to respond with increased knowledge and purpose to future proposals and events affecting

these waters. It should be noted that the HMP is not a static document; it can (and should) be revised as new issues and solutions become apparent.

A Plan That Becomes the Basis for Decision-Making

An adopted HMP becomes the basis for decision-making. As a result, the regulatory process will become more predictable and efficient. Government agencies will be able to respond to private sector development proposals with a quicker "yes" or "no". Proposed actions that are not consistent with the HMP, and which cannot be modified to be consistent, should not proceed. Government agencies, having participated in preparing the HMP, will conduct their activities in a manner that is consistent with the plan's goals and objectives. This includes government agency actions related to funding, permitting, or direct actions.

A Plan That Attracts Funds and Technical Assistance for Implementation

An adopted HMP containing investment priorities can help to attract both public and private investment in waterfront projects since the plan demonstrates the local government commitment to the harbor area. Approved harbor management plans convince funding entities that projects have widespread community support and are realistic, and that project funds will be spent well. As a result, the local governments in the harbor area are more likely to be successful in obtaining county, state, and federal grants to implement their plan. In addition, these communities are more likely to receive technical assistance from a variety of government agencies to implement their plan.

The plan will also demonstrate to private sector investors the local commitment to the harbor. As a result, the plan will give investors confidence in the future of the commercial waterfront area and the harbor area as a whole. Increased investor confidence can result in development projects to improve existing businesses or to establish new businesses and amenities that are consistent with the HMP.

A Plan That Provides Economic Benefits

The HMP is expected to result in the following additional economic benefits:

- By maintaining or improving upon the positive economic aspects of the present built environment, commercial and residential property values will be protected and enhanced.

- Increased predictability and efficiency in the regulatory process will result in less expenditure of time and funds by project applicants and less time consumed by government agencies for project reviews.

- By establishing investment priorities, more efficient and effective use will be made of limited public dollars. Establishing investment priorities will also serve to stimulate private sector activities and investments.

- The HMP increases the likelihood that county, state and federal grants can be obtained. This will reduce the cost to local governments for needed or beneficial harbor improvements.

- Provisions for new or improved amenities in the harbor's business districts will strengthen tourism and benefit area businesses.

- Positive economic benefits to residents and harbor users will be derived from conflict resolution. By defining harbor use areas for moorings and navigation, there will be fewer water use conflicts. Fewer conflicts means less time and energy wasted over competition for moorings and areas to navigate.

- Protecting and enhancing natural resources will ensure that Hempstead Harbor remains an attractive place for visitors, area residents and waterfront property owners. A clean environment is a key contributor to quality of life, and is also important to sustaining commercial and residential property values.

- Water quality improvements through more effective land use practices would provide a number of benefits. These include: enhanced aesthetics and recreational enjoyment; reduced threat of beach closures; and, possibly, as a long-term goal, the opening of currently closed shellfish harvest areas, which would increase the value of the shellfish industry, enhance the income of commercial fishermen, and provide increased recreational opportunities for area residents.

CHAPTER 2

POLITICAL AND REGULATORY JURISDICTIONS

Hempstead Harbor and its surrounding uplands fall under the jurisdiction of governmental entities at multiple levels, including the local municipalities (of which there are eight), as well as various County, State, and federal agencies. In many cases, more than one review, permit, and/or approval are required to undertake a given action within the harbor or along its waterfront. This multidimensional regulatory authority can make it more difficult, as well as more time consuming and expensive, to obtain permits and approvals necessary to undertake projects and other actions in the harbor area.

Understanding the relationships and distinctions among the involved regulatory entities is critical to achieving success in advancing the goals and objectives of any comprehensive management plan, including this HMP. This chapter provides a synopsis of the roles played by the public agencies that are expected to be involved in actions to implement this HMP, as well as private organizations that typically contribute to the process by providing a crucial avenue of public input regarding such actions.

2.1 LOCAL GOVERNMENT

Local governments have primary jurisdiction over actions and activities that occur on the landward side of the Hempstead Harbor waterfront. Water-side jurisdiction is more complex, and is divided among multiple levels of government, especially the two towns, the City of Glen Cove, and various New York State and federal agencies.

In harbors that contain more than one local jurisdiction, as obviously is true for the Hempstead Harbor area, efforts to effectively manage resources can be complicated. Traditionally, individual municipalities have tended to act independently of one another, focusing narrowly on the specific issues of concern to their respective constituents, and have carefully guarded their independence and autonomy. Although tangible benefits on a broad scale can result from the initiatives undertaken by an individual municipality, the cooperation of all involved municipalities is necessary to maximize attainment of overall management goals, such as the institution of consistent surface water use regulations throughout the harbor, improvement of water quality, and the enhancement of ecological resources.

As discussed in Section 1.1, the Hempstead Harbor communities have successfully established a mechanism for cooperative problem-solving, namely by means of the Hempstead Harbor Protection Committee. Still, the individual municipalities retain their

full authority under applicable law, and must act individually, though in concert, to attain the goals of this HMP. This will include the official adoption of the HMP by all of the involved municipalities, but also will extend to the adoption of common or joint local laws, execution of inter-municipal agreements, and/or similar actions to ensure that HMP implementation is properly coordinated.

2.1.1 Incorporated Villages

The incorporated villages along the shoreline of Hempstead Harbor have the authority to regulate land use activities within their boundaries, primarily by means of the local zoning codes, as well as other activities that are governed by their respective municipal codes, in accordance with State law. Under Section 46-a of the New York State Navigation Law, each village also has the authority to regulate the speed, operation, anchoring, and mooring of vessels upon waters within the respective village, and outside of the village to a distance of 1,500 feet from the mean low water line. Importantly, however, this extra-territorial jurisdiction of the villages does not extinguish the proprietary rights of the underwater land owners.

The villages do not have the authority to regulate docks or other structures or physical changes to the environment outside of their municipal boundaries. Instead, this authority lies with the town(s) in which the structures would be located, in addition to the State and federal agencies which have regulatory authority in such matters. However, to the extent that a proposed docking structure includes an onshore section that lies within the municipal boundary of a given village, said village would have the authority to regulate the structure.

The harbor-side municipal boundary of the incorporated villages in the study area generally runs along the mean high water line, as is the case for most incorporated villages on Long Island. For most of these Villages, the location of the municipal boundary was verified by referring to the respective incorporation papers.

Certain maps and charts (e.g., U.S. Geological Survey topographic quadrangle map) which were examined as part of the HMP inventory phase of this project suggested that the municipal boundary of the Village of Sands Point may extend offshore and include a portion of the water area in Hempstead Harbor. However, further research into the Village's incorporation documents procured from the New York State Archives confirmed that the water-side boundary of the Village of Sands Point coincides with the mean high water line.

2.1.2 Towns and City of Glen Cove

The Towns of North Hempstead and Oyster Bay and the City of Glen Cove exercise multi-faceted jurisdiction with respect to activities within Hempstead Harbor, summarized as follows:

- Each has the authority to regulate land use activities within its boundaries, primarily by means of the local Zoning Code, as well as other activities that are governed by their respective Codes, in accordance with State law.

- Each has the authority to regulate or control the use of underwater lands within its boundaries, whether or not the town or city owns the underwater lands.

- The City, in accordance with Section 46-a of the New York State Navigation Law, and each of the Towns, in accordance with Section 130.17 of the New York State Town Law, have the authority to regulate the speed, operation, anchoring and mooring of vessels upon waters within the respective municipality, or up to 1,500 feet from the shore, except on waters within a Village or within 1,500 feet from the shore of a Village. Villages have this authority in the Villages and up to 1,500 feet from the shore of a Village.

- Each has the proprietary authority to control the placement of structures on underwater lands it owns.

- The City of Glen Cove operates a sewage treatment plant which is located on the south side of Glen Cove Creek. This facility serves the sewage disposal needs of the vast majority of the residential uses and all of the non-residential uses in the City, as well as some areas outside the City.

The harbor-side municipal boundary of the two Towns and the City of Glen Cove is shown in Map 3-1. This boundary places the entire lower harbor area, to the south of Bar Beach, in the Town of North Hempstead. To the north of Bar Beach, the boundary between the Town of North Hempstead (on the west) and the Town of Oyster Bay and City of Glen Cove (on the east) runs approximately up the central axis of the harbor. The boundary between the Town of Oyster Bay (to the south) and the City of Glen Cove (to the north) is not well defined in the law which created the City (Chapter 787 of the Laws of New York of 1917, "AN ACT to incorporate the city of Glen Cove"), which identifies the City's water-side boundary only as including "all the lands under water lying in Hempstead harbor and Long Island sound adjacent to said premises [i.e., the upland portion of the City] to the centre of said harbor and sound respectively." This boundary line between the Town of Oyster Bay and City of Glen Cove extends on a perpendicular

from the boundary running up the central axis of the harbor between the Town of North Hempstead to the west and the Town of Oyster Bay/City of Glen Cove to the east.

2.2 NASSAU COUNTY

2.2.1 Nassau County Department of Health (NCDH)

The NCDH has authority over determining the wastewater disposal requirements of new development in the HMP area. In a large portion of this area, sewage disposal entails the use of on-site subsurface systems (i.e., septic systems and cesspools). New systems of this type must be approved by the NCDH and the local municipality, based on testing to demonstrate the suitability of on-site soils.

2.2.2 Nassau County Planning Commission (NCPC)

The NCPC has discretionary approval authority over subdivision applications, in accordance with the provisions in its *Regulations for the Subdivision of Land.* Under Section 239-m of the General Municipal Law of New York State, the NCPC also is authorized to review and comment upon any application involving a local zoning action, special permit, or site plan that lies within 500 feet of a municipal boundary, a state or county park, the right-of-way of a state or county roadway, county drainage way, or public building or institution on state or county-owned land. NCPC is also responsible for conducting planning research and preparing regional/county-wide plans.

2.2.3 Nassau County Department of Public Works (NCDPW)

The NCDPW is responsible for the maintenance of County roadways and corresponding drainage infrastructure, as well as for the municipal sewage collection and conveyance infrastructure serving the Village of Roslyn and the Port Washington Sewage Collection and Disposal District. The NCDPW also reviews drainage plans for subdivision applications to ensure that such plans conform to the County's standard for stormwater control.

2.3 NEW YORK STATE

2.3.1 New York State Department of State (NYSDOS)

The NYSDOS Division of Coastal Resources is responsible for administering New York State's Coastal Management Program. In voluntary cooperation with local municipalities, the Coastal Management Program strives to meet the needs of coastal residents and visitors, while working toward the advancement of economic development

and protection of valuable coastal resources. The Division of Coastal Resources also provides financial and technical assistance to local governments and works with local governments, residents, and coastal resource users to promote the beneficial use and protection of New York's coastal resources in accordance with Article 42 of the New York State Executive Law. This HMP is being prepared within the context of the Coastal Management Program with oversight and funding provided by NYSDOS.

NYSDOS also has a number of other branches – including Division of Local Government Services, Division of Community Services, and Office of Regional Affairs – which provide valuable assistance to governmental agencies and community organizations. Both the Division of Local Government Services and Office of Regional Affairs provide technical information and educational opportunities to governmental agencies and civic organizations and the Division of Community Services provides guidance to individuals involved in the administration and implementation of community services block grants.

2.3.2 New York State Department of Environmental Conservation (NYSDEC)

NYSDEC is charged with the responsibility of administering many of the State's environmental protection, monitoring, enforcement, and permitting and licensing programs. The Department has a number of divisions which have jurisdiction over a vast array of natural resources such as water bodies, waterfronts, wetlands, and other natural environments. Within the Hempstead Harbor area, NYSDEC has regulatory authority over: tidal and freshwater wetlands; State Pollution Discharge Elimination Systems (SPDES) permits (covering some point discharges and stormwater systems, as well as the newly implemented Phase II regulations governing municipal stormwater discharges and stormwater discharges from construction sites greater than one acre in area); large underground fuel storage tanks, surface and groundwater quality protection and monitoring; protection and management of fish, wildlife and their habitats; administration of pollution prevention programs; environmental education and public outreach; air resources; solid waste disposal and hazardous materials control; reclamation of brownfields, and operation and management of certain state parklands.

2.3.3 New York State Department of Transportation (NYSDOT)

NYSDOT is primarily responsible for designing and maintaining roads and related drainage infrastructure in the State's Highway system and for the administration of a variety of transportation-related programs. NYSDOT administers the Transportation Equity Act for the 21st Century (TEA-21) which provides funding for a number of transportation-related projects including transportation enhancements such as stormwater control that will improve environmental quality.

The NYSDOT Environmental Analysis Bureau, Water/Ecology Section, provides a number of services to the various divisions of NYSDOT, including the development of policies, procedures and technical assistance to ensure that projects comply with Federal and State environmental regulations. The bureau specifically provides technical and advisory support in regard to storm water management, groundwater protection, wetlands and surface waters issues, coastal zone management, and ecological preservation, and provides such services as endangered species surveys, wetland delineations and characterizations, and assistance with environmental permitting.

2.3.4 New York State Emergency Management Office (SEMO)

SEMO is responsible for responding to natural disasters, calamities, and other state emergencies by engaging in pro-active preparedness planning, disaster mitigation, education, and stockpiling emergency equipment, as well as immediate response and recovery actions including financial assistance to ensure safe and sanitary residential conditions and temporary housing. SEMO strives to protect private and public property as well as the environment.

2.4 FEDERAL GOVERNMENT

2.4.1 United States Army Corps of Engineers (ACOE)

The ACOE undertakes federal civil works projects and has regulatory jurisdiction over all construction or filling activities taking place in the waters and wetlands of the United States. The enabling legislation granting regulatory authority to the agency is Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act regulates structures in navigable waters of the United States, and Section 404 governs the permitting process for the discharge of dredged or filled material. The ACOE also retains primary authority over Federal flood and coastal erosion projects.

2.4.2 United States Environmental Protection Agency (EPA)

Congress created the EPA in order to oversee the protection of human health and to ensure the quality and integrity of the country's natural resources. The EPA is charged with the responsibility of developing federal environmental programs, establishing national policy and standards, and administering funding for environmental programs. The EPA also is responsible for implementing a variety of environmental legislation including, but not limited to: the Clean Air Act; the Clean Water Act; the Safe Drinking Water Act; the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund); and National Environmental Policy Act (NEPA); and

numerous other pollution control programs. Also of particular significance to the study area is the National Estuary Program, under the overall authority of the EPA, which was the impetus for the multi-jurisdictional Long Island Sound Study.

2.4.3 United States Fish and Wildlife Service (FWS)

The FWS has jurisdiction over the protection of migratory birds, federally-listed endangered species, marine mammals, and freshwater and anadromous fish. The FWS's mission is to work with individuals, public and private agencies to preserve, protect, and enhance the viability of fish, wildlife, and natural habitats within the United States. Other responsibilities include, but are not limited to: management and operation of the National Wildlife Refuge System and numerous national fish hatcheries, fishery resource offices, and wildlife field stations; enforcement of national wildlife laws; and restoration of wetlands and implementation of wetlands protection regulations.

2.4.4 National Oceanic and Atmospheric Administration (NOAA)

The overall mission of NOAA is to assess and forecast alterations in environmental conditions and to conserve and appropriately manage the coastal and marine resources of the United States. The Office of Coastal Resource Management administers the national Coastal Management Program, in accordance with the Coastal Zone Management Act. In order to implement its many marine resource management objectives, a subunit was created in NOAA, called the National Marine Fishery Service (NMFS), which is responsible for rebuilding and maintaining sustainable fisheries, promoting the recovery of protected species, and protecting and maintaining the health of coastal marine habitats.

2.4.5 United States Coast Guard

The U.S. Coast Guard maintains an important presence in Hempstead Harbor and the greater Long Island Sound area and provides a variety of valuable services to promote the safety and security of the nation's waters. The Coast Guard is responsible for: patrolling off-shore areas; enforcing maritime laws, including recreational vessel and commercial shipping controls and illegal drug trade interdiction; performing emergency searches and rescues; national security; and assuming military duties during times of war.

2.5 PRIVATE ORGANIZATIONS

Private organizations developed at the grassroots level also are very important in the development, implementation, and enforcement of resource management plans such as this HMP. Members of these organizations are intimately familiar with their surroundings, existing land use and environmental conditions, area history, and key issues of public concern. They have a vested interest in the outcome of land use and other planning decisions. Such organizations can include environmental protection groups, neighborhood preservation committees, civic organizations, business alliances, special issue groups which may disband subsequent to achieving a particular mission, and school board committee members, to name a few.

CHAPTER 3

INVENTORY OF EXISTING CONDITIONS

IN THE HARBOR MANAGEMENT AREA

3.1 INTRODUCTION

This chapter of the Harbor Management Plan contains a comprehensive inventory of existing conditions in the Harbor Management Area. This information provides a critical foundation for defining the issues which are targeted for action in this HMP and formulating appropriate solutions to address these issues.

The inventory discussion is divided among two main sub-chapters, describing the harbor's land side and its water side. The Land Side sub-chapter (3.3) is organized according to topic (land use, zoning, environmental resources, etc.), with further subdivisions as appropriate to describe conditions in the various municipalities. The Water Side sub-chapter (3.4) also is organized according to topic (water quality conditions, ecological resources, vessel uses, etc.). However, in order to emphasize the concept of the harbor being a single entity, information in Sub-chapter 3.4 generally is not presented on a municipality-by-municipality basis.

Appendix A presents a series of photographs depicting representative features and key facilities in the HMP study area, both in the harbor itself and on the surrounding waterfront.

Before delving into the inventory of existing conditions, an overview of past uses and activities in Hempstead Harbor will establish the proper historic context. This historical overview is presented in Sub-chapter 3.2.

3.2 HISTORIC OVERVIEW

The information presented in this section is derived largely from *Hempstead Harbor: Its History, Ecology, and Environmental Challenges* (*Coalition to Save Hempstead Harbor*, 1998), the *Newsday* series *Our Towns* (as obtained from the worldwide web), *An Introduction to Glen Cove History* (D.E. Russell), and the web sites of the various municipalities.

Human presence in the Hempstead Harbor area dates back to the days of Native American settlements, perhaps as early as 3500 B.C. When Europeans began coming to the area, in the 1600s, they found the Harbor's shores to be rich in fish and shellfish and surrounded by gentle and fertile lands, with available freshwater and easy access to Long Island Sound for

transportation purposes. Small towns were established at the focal points of activity along the Hempstead Harbor waterfront, key among which were Roslyn and Glen Cove, while much of the outlying area (including much of present-day Flower Hill and Sands Point, and the northern portion of present-day Glen Cove) was used for farming. Other portions of the shoreline were preserved largely intact as wealthy industrialists purchased expansive tracts of land and built the impressive estates of the "Gold Coast".

In its early days, Roslyn had an intimate connection to the harbor, as evidenced by its prior names, Head of the Harbor and Hempstead Harbor. The energy of the headwater stream powered mills, one of which still stands on Old Northern Boulevard and is the subject of an ongoing preservation campaign. The Roslyn waterfront was once a bustling port, handling a wide variety of commodities, which made it the most important community on the harbor at that time. However, by 1900, siltation of the lower harbor made navigation difficult, such that larger vessels had to be off-loaded in order for goods to be delivered to the shore. Eventually, shipping to Roslyn became impractical, and its status as a port faded.

Like Roslyn, Glen Cove played an important early role in the development of Hempstead Harbor which was centered on water-related commerce, commencing with mill operations in the late 1600s at the head of Glen Cove Creek. Over time, Glen Cove became a regional center of industrial activity, especially in Glen Cove Creek which provided deep-draft, protected berthing. In the early 1880s, Glen Cove became a pottery center, using clay obtained locally from the Garvies Point area. The industrial boom in Glen Cove took off in earnest during the mid-1800s, with the establishment of the Duryea Corn Starch Manufacturing Company. Although contributing mightily to the local economy, the corn starch plant also produced prodigious quantities of organic waste which were discharged freely into Glen Cove Creek. The decay of this waste material destroyed the ecology of the creek and generated obnoxious odors that permeated the surrounding communities. The Duryea facility closed at the turn of the century, but was followed by even more intensive industry, involving even greater environmental hazards, including the Li Tungsten and Mattiace operations on sites which currently are undergoing major remediation (see Section 3.3.1.4).

Glen Cove historically has been a key terminal for passenger ship travel to New York City, with steamboat service out of The Landing (near present-day Morgan Park) commencing in 1828. This supported a thriving tourist industry, with several major hotels operating in the vicinity of The Landing. Additionally, steamboat operations made it possible for wealthy New York City businessmen to maintain summer homes in the Hempstead Harbor area (other landings occurred at Sands Point, Glenwood, and Roslyn) while also commuting to their offices in Manhattan, which supported the establishment of the "Gold Coast" estates.

Glenwood Landing was another important area of industrial development during the 1900s, due in large part to the occurrence of deep water near the shore in the natural channel between the tip of Bar Beach and the harbor's eastern shore. The Nassau Power and Light Company constructed a small, electric power plant on this shorefront in the early 1900s. This plant subsequently was expanded to accommodate increasing regional electrical demands, resulting in the conspicuous brick buildings and smoke stacks that tower some 246 feet above the community. Between 1908 and 1970, the world renowned Fyfe Shipyard operated in Glenwood Landing on property adjacent to the existing power plant. The current Exxon Mobil facility adjacent to the power plant began operating in 1923, after closure of the Socony-Vacuum distribution facility at this location. Prior to this industrialization, during the late 1800s, Glenwood Landing supported a tourist trade, with two hotels on the east side of Shore Road, between Scudders Pond and Glenwood Road, and another on the southwest corner of Glenwood Road and Schoolhouse Hill Road.

Like Roslyn, Glen Cove and Glenwood Landing, the early development of Sea Cliff was controlled strongly by its coastal geography. While the three former areas possess (or initially possessed) good vessel access to Hempstead Harbor, Sea Cliff's location atop a high bluff hindered water-borne commerce. However, the scenic beauty of Sea Cliff and its recreational amenities (e.g., fishing, swimming, boating, etc.) did attract a booming tourist trade and, starting in the 1800s, ferries and steamboats delivered a large number of seasonal vacationers who ascended to their hotels by way of an inclined railway along the bluff face.

Beginning around the 1920s, many of the large estates and farm tracts in the area around Hempstead Harbor were subdivided for single-family home construction. This type of development, on varying lot sizes depending on the local zoning requirements, characterizes much of the area in the five villages, the unincorporated communities of Port Washington and Glenwood Landing, and the northern portion of the City of Glen Cove.

The thick glacial deposits on the western shore of the harbor were mined for sand and gravel to serve the construction boom in New York City during the early and middle part of the twentieth century. It is estimated that as much as 140 million cubic yards of material were excavated from this area. The legacy of the Hempstead Harbor mining industry is evident today. The landscape at this location has been significantly and irreversibly altered: the high, vegetated bluffs that previously dominated the waterfront here were replaced by the flattened area of the former mine (now occupied largely by the Harbor Links Golf Course). Some of the pilings associated with the mining operation are still visible in the nearshore waters. Aggregate trans-shipment – involving the receipt of material by barge for trucking to inland markets, subsequent to the termination of active mining in Port Washington – still operates at its historic location just north of Bar Beach. One of the most notorious relics of the past mining industry, approximately 70

derelict barges that were abandoned in the western portion of the lower harbor, finally were removed from these tidal flats in 1993 following a sustained local effort over many years.

At one time, Hempstead Harbor was an important area for the shellfishing industry, providing abundant quantities of such species as clams, oysters, and mussels. However, after years of harvesting, quantities dwindled. Additionally, the deleterious effects of discharges from the adjacent, developed uplands caused water quality conditions in the harbor to deteriorate. As a result, the harbor has been closed for shellfish harvesting since 1966.

The history of Hempstead Harbor has been characterized by dramatic changes and strong contrasts. The early settlers enjoyed a pristine coastal water body that yielded abundant natural resources for their use, while also readily serving their commercial needs. However, heavy industrialization across two centuries led to the general deterioration of the area. More recently, a concerted and energetic initiative by residents, government, key property owners and facility operators has resulted in dramatic improvements to both the environment and quality of life in and around the harbor. The entire area in Hempstead Harbor (extending out to a line between Mott Point in the Village of Sands Point and the Morgan Park breakwater, and excluding the innermost section comprising Roslyn Creek) has been designated by the New York State Department of State and Department of Environmental Conservation as a Significant Coastal Fish and Wildlife Habitat, due to its extensive tidal wetlands, its use by waterfowl as a wintering area, and its productivity with respect to shellfish and finfish. There has been expanded recreational use of these waters – anglers, swimmers, and boaters are returning in increasing numbers. With the substantial improvement in the physical condition of the harbor, the aesthetic appeal of the waterfront also has been renewed, such that more people are being drawn back to enjoy the simple pleasure of viewing the harbor. However, significant work remains ahead.

Restoration efforts in Hempstead Harbor must deal with the legacies of the past: industry no longer dumps chemicals freely, but hazardous waste sites dot the harbor's shores; sewage treatment plants have been built and upgraded, but sanitary discharges to on-site cesspools in large portions of the watershed still leach poorly treated effluent into the harbor; and the harbor still suffers from deteriorated visual character in some areas. Additionally, conflicts still exist among the various user groups: areas that are more natural and pristine stand almost side-by-side with areas that are intensively developed (including a number of hazardous waste cleanup sites); vessel uses in these waters range from large commercial barges to small hand-powered and wind-powered recreational boats; and there are beaches within a stone's throw of petroleum facilities. Accommodating these varying conditions and uses, to achieve the optimal level of benefit for all parties involved, will be a special challenge that the Harbor Management Plan is intended to address.

3.3 INVENTORY OF EXISTING LAND-SIDE CONDITIONS

The Harbor Management Area stretches along approximately 19.5 miles of shoreline which extends from Prospect Point in the Village of Sands Point to the east, southward to the outlet from Roslyn Mill Dam in the Village of Roslyn, and northward to Matinecock Point in the City of Glen Cove on the east side of the harbor. This waterfront land area covers a total of 4.8 square miles stretching across eight municipalities. The geographic limits of these municipalities, in reference to the boundary of the Harbor Management area, are illustrated on Map 3-1.

3.3.1 Land Use

3.3.1.1 General Pattern of Land Use in the Harbor Management Area

Land use in the Harbor Management Area is governed independently by the eight municipalities that have shoreline on the harbor, primarily through their zoning codes. In many cases, the existing pattern of land use reflects zoning that was instituted many years ago by the respective municipal legislative boards. However, ongoing redevelopment in certain areas (e.g., Glen Cove Creek) is being guided by zoning amendments that have been enacted in the recent past. A similar initiative is under way in the Town of Oyster Bay portion of Glenwood Landing, with the January 2004 enactment of waterfront zoning in this area, which it is hoped will encourage suitable redevelopment to replace the existing pattern of industrial land use along this section of the harborfront reflecting the zoning that had been in place for many decades. The upland zoning of the Harbor Management Area is discussed in detail in Section 3.3.2.

As shown in Map 3-2, distinct differences in the pattern of land use are clearly evident as one travels around the rim of Hempstead Harbor. Mixed residential development and recreation/open space occupy most of the land in Sands Point, Roslyn Harbor, Sea Cliff and the portion of the City of Glen Cove to the north of the creek. Open space lands dominate along the western shoreline of the lower harbor. Mixed uses occur in the Village of Roslyn. More intensive waterfront uses, including most of the marine-commercial facilities in the harbor, are concentrated in Glen Cove Creek and Glenwood Landing, where very little natural vegetation or areas providing suitable wildlife habitat remain.

Overall, public open space and recreational uses comprise the largest portion of the land use in the upland portion of the study area, at 81.7 percent of the total. Residential is the next most common use, at 8.5 percent of the total. Private recreation comprises 3.6 percent of the total, private vacant/unutilized 1.8 percent, general commercial 1.6 percent, industrial and institutional about 1 percent each, and marine-commercial and mixed use less than 1 percent each.

3.3.1.2 Marine-Commercial/Water-Dependent Uses

Marine-commercial uses include businesses that are water-dependent (i.e., those uses which require a location on the water or at the shoreline in order to function). This includes marinas, boat yards, ferry operations, facilities that receive goods or ship products via water-borne vessels, and similar uses. Marine-commercial uses that provide access to the waters of Hempstead Harbor for recreational vessels (e.g., marinas) are discussed in Section 3.3.1.3, which also addresses facilities such as yacht clubs and boat launching ramps.

The Glen Cove Creek portion of Hempstead Harbor is one of ten maritime centers in the Long Island Sound region of New York State that have been designated by the New York State Department of State (NYSDOS) in its *Long Island Sound Coastal Management Program* (1994 draft report with thorough inventory; 1998 updated summary). A Maritime Center is defined as a segment of "working coast" which contains a high concentration of water-dependent uses, including public and private marinas, yacht clubs, boat yards, commercial or recreational fishing vessels, ferries, and/or water-borne commerce. For Glen Cove Creek, the maritime center designation was based on the presence of marinas, yacht clubs, a boat yard, aggregate trans-shipment facilities, and an oil transfer and storage facility (as identified by NYSDOS in the inventory conducted for its 1994 draft report). In addition, NYSDOS recognized the maritime importance of the water-dependent uses on the west shore of the harbor (including the aggregate trans-shipment facilities), although concern was expressed that these uses should not impair existing parks in the vicinity. However, it is important to recognize that the eastern shoreline of the harbor below Glen Cove Creek also contains a number of water-dependent uses, including Tappen Marina and the Exxon-Mobil storage and distribution facility, as well as the Gladsky marine salvage operation (which has been relocated to Glenwood Landing from Glen Cove Creek since the time of that earlier study by NYSDOS).

Marine commercial uses within the study area are described as follows (see Map 3-3 for the location of these facilities and other key parcels and facilities in the study area):

Village of Sands Point

This portion of the study area does not contain any marine commercial uses.

Port Washington, Town of North Hempstead

The marine-commercial uses in this area include several aggregate operations located on the west side of the harbor just north of the Hempstead Harbor County Beach Park. These companies provide crushed stone, sand and gravel, asphalt and recycled materials to various buyers. Barges deliver bulk shipments of aggregate to the shoreside offloading facilities of Bay Aggregates, Tilcon Corporation, and Buchanan Marine. Cranes remove the materials from the barges and create large stockpiles on the subject property. The aggregate is transferred on-site

to trucks for transport to inland destinations. The barges are staged at moorings in the middle of the harbor, where they await conveyance by tug boat to aggregate sources.

Village of Flower Hill

This portion of the study area does not contain any marine commercial uses.

Village of Roslyn

This portion of the study area does not contain any marine commercial uses.

Village of Roslyn Harbor

This portion of the study area does not contain any marine commercial uses.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

Keyspan's **Glenwood Power Station** is located on approximately six acres on the east side of the harbor, in the North Hempstead portion of Glenwood Landing, just across the Oyster Bay Town line. The power plant currently has two operational units, which were constructed in 1952 and 1954. These two units initially were fueled with coal, were converted to oil combustion in the 1960s, dual-fuel (oil and gas) in the 1970s, and then went to gas-only operation in the 1980s. These units generate a combined electrical output of approximately 228 megawatts. A waterfront location is no longer needed for fuel deliveries, since oil use was phased out completely in the 1980s and the plant's gas supply arrives via pipeline. However, the water supply for non-contact cooling of the turbines continues to be drawn from the harbor, so that the facility in its present configuration still is considered to be a water-dependent use.

Exxon-Mobil Oil Company operates a fuel storage and transfer facility in the Town of Oyster Bay portion of Glenwood Landing. The current facility operation at this location commenced in 1923, after closure of the Sacony Vacuum distribution facility. The facility operates 24 hours-a-day and seven-days-a-week, and receives shipments of as much as 170-180 million gallons of petroleum per year. The product stored at the Exxon-Mobil tank farm is delivered to the site entirely by oil tanker. Shipments are off-loaded from these vessels at the oil company's harborside docking facility (situated on a small parcel within the study area) and transferred via a pipeline beneath Shore Road to storage tanks on the east side of Shore Road (just outside the study area).

The **Gladsky Marine Salvage** facility occupies an approximately 2.2-acre site (of which, roughly 1.5 acres are upland and the remainder is underwater land) located on Shore Road in the

Town of Oyster Bay portion of Glenwood Landing, between the vacant parcels owned by Key Span to the north and the Exxon-Mobil pier to the south. The Gladsky facility serves as the base for the recovery of sunken vessels and similar marine salvage operations throughout the region. The upland portion of the site contains a variety of heavy equipment, machinery, supplies and materials associated with this use. Floating docking structures provide boat slips, estimated at 12 or more in number at the time of this report.

The upland portion of the Gladsky property also is used for dry storage of commercial and pleasure craft, as well as a service area for all types of vessels. Wet berthing and a small marina facility also are provided (see Section 3.3.1.3). A site plan for existing and proposed improvements, including both the marine salvage and marina uses, was submitted to the Town of Oyster Bay prior to the institution of the moratorium adopted in association with the *Glenwood Landing Waterfront Redevelopment and Revitalization Plan*; this moratorium expired in September 2002. The plan proposes the construction of a 700-square foot office and storage facility, a 30-space parking lot, a 21-slip marina (over the northern portion of the underwater lands), a six-foot wide timber walkway, extension of the steel bulkheading along the northern and western shoreline, an outdoor storage area for equipment and machinery, and landscaping along the street frontage.

Quality Marine Service, formerly Burtis Boat Works, is a boat yard and marine supplier located at the southern end of Shore Road in the Town of North Hempstead portion of Glenwood Landing. This facility is open year-round, and provides all types of marine repairs. No dockage is available at this location, which backs onto the north side of Motts Cove.

Village of Sea Cliff

This portion of the study area does not contain any marine commercial uses.

City of Glen Cove

The City of Glen Cove contains a number of marine commercial uses which are concentrated on Glen Cove Creek. These uses include marinas and boat yards (e.g., Jude Thaddeus Glen Cove Marina and Brewer's Yacht Yard), which provide various services, including boat repairs and maintenance, travel lifts, vessel storage, and fueling. All such facilities that are related to recreational vessel access are discussed in Section 3.3.1.3, below.

Ferry service historically has been an important marine-commercial, water-dependent use on the Glen Cove waterfront and has played an integral role in the City's development. As far back as

1829, ferry service connected Glen Cove to Manhattan. This led to many hotels being built in the area and supported a substantial tourist industry, and also attracted many wealthy entrepreneurs who constructed mansions on nearby estates.

The **Fox Navigation Ferry Terminal** had been located on the northern side of the mouth of the Glen Cove Creek, at the end of Garvies Point Road. Fox Navigation had operated a ferry service out of this location for several years, with round trip passage to New York City and excursions to Connecticut to visit the Foxwoods Casino. However, ferry operations ceased in October 2002 due to a reported lack of customers and high maintenance costs, and the future of the facility is uncertain, although the City has indicated that another operator will be sought if Fox Navigation is not able to meet its contractual commitment.

Because of heavy congestion and delays on regional road transportation systems, travel by ferry is being looked at with increasing interest. In 2002, the Long Island Waterborne Transportation Plan project began, with the mission of exploring the potential for expanding the use of the Long Island Sound and its tributaries for transportation (of both passengers and commercial freight). Consultants have been retained to analyze the existing marine facilities, marinas and harbors in the study area, which includes the Fox Ferry Terminal and other facilities located in Hempstead Harbor. The Waterborne Transportation Plan will also examine the range of potential ferry services and routes in the area. In the end, a Final Plan will be instituted to govern until 2025.

Bon-A-Fide Redi-Mix and **Rason Asphalt** operate from two separate parcels in the upper portion of Glen Cove Creek. Bon-A-Fide's property is on the north side of the creek, just downstream from the terminal bulkhead at Charles Street. The Rason Asphalt site is situated on the south shore, between the Nassau County and Glen Cove Department of Public Works facilities. Both Bon-A-Fide and Rason Asphalt receive water-borne shipments of aggregate material used in the construction industry.

The **Doxey** site occupies 0.64-acre on the north side of Glen Cove Creek, immediately east of the former Gladsky parcel and west of the Li Tungsten property. The Doxey facility is privately owned, and currently is being used for a salvage operation. Previously, the site was operated as a petroleum storage facility. The City is working with the owner to relocate this operation to another suitable site, in order to free up this parcel for redevelopment as part of the Glen Cove Creek Revitalization Plan.

Windsor Fuel Company operates from a 1.1-acre property located at the head of Glen Cove Creek, on its northern shore. The site recently was refurbished, including reconstruction of the bulkhead, removal of several above-ground tanks, and fresh coat of paint on the remaining tank. In the past, this facility has received bulk shipments of petroleum via barge, but this has not

occurred recently due to issues regarding the dredging of the Creek. The owners have expressed an interest in recommencing its water-side activities once dredging has been completed.

3.3.1.3 Recreational Vessel Access Facilities

Various facilities are available in the study area which provide for vessel access to Hempstead Harbor. These facilities – which range from launching ramps for small boats, including both trailered and car-top vessels (e.g., canoes and kayaks), public and private marinas, and yacht clubs – are described as follows (see Map 3-3 for the location of these facilities).

Village of Sands Point

This portion of the study area does not contain any facilities that provide vessel access to Hempstead Harbor.

Port Washington, Town of North Hempstead

The Beacon Hill community maintains a semi-private seasonal docking facility (Colony Marina), which provides approximately four berths and 12 moorings, and boat launching ramp.

The Town of North Hempstead's Bar Beach facility contains a boat ramp, which is located immediately to the south of Bar Beach peninsula. There is a $55 annual resident permit available, otherwise use of the ramp costs $8 per day for residents.

Village of Flower Hill

This portion of the study area does not contain any facilities that provide vessel access to Hempstead Harbor.

Village of Roslyn

This portion of the study area does not contain any facilities that provide vessel access to Hempstead Harbor.

Village of Roslyn Harbor

This portion of the study area does not contain any facilities that provide vessel access to Hempstead Harbor.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

The **Gladsky Marine** facility contains a small private marina. As noted previously, the upland area of the property is used for boat maintenance, but does not include other boating amenities. The number of boat slips provided at this site was estimated at 12 or more in number at the time of this report, and the facility is the subject of a code compliance investigation by the Town of Oyster Bay.

Tappen Marina is a Town of Oyster Bay facility on the east shore of the harbor to the north of Bar Beach, just south of the Village of Sea Cliff. This public marina contains a total of 272 boat slips, which can accommodate vessels as large as forty feet in length and having up to a 6.5 feet of draft. The marina is open to both Town of Oyster Bay residents and non-residents. During recent peak boating seasons, the slips have been used at approximately 90 percent of capacity. Winter storage is available as well, but only in-water; however, not many boaters prefer this method and, therefore, the marina does not experience heavy storage demands. The fees for boat slips at the Tappen Marina are offered at seasonal rates based on the size of the boat. Slips are available either with or without electrical service to both residents and non-residents. Also, a disposal facility is provided on site to accept used motor oil, and a vessel waste pumpout facility is available for public use.

Village of Sea Cliff

The Town of Oyster Bay's **Tappen Beach Park** contains a boat launching ramp, which is located immediately to the north of Tappen Marina at the southernmost end of the Village. A $20 seasonal trailer sticker provides Town of Oyster Bay residents with access to this ramp, otherwise Town residents are charged a $10 per day use fee. For non-residents, there is a $40 daily charge for cars, trucks and trailers. Commercial vessels are charged $275, and senior citizens may obtain a free seasonal trailer sticker. Sunfish/sailfish racks also are available at Tappen Beach for seasonal fee.

The **Shore Road Boat Launching Ramp** is located at Rum Point, adjacent to the terminus of Laurel Avenue, near the north end of Shore Road Promenade. Only limited parking is available along Shore Road, so that cars must be parked at Tappen Beach, located to the south. Because of roadway geometry constraints at this location, this boat ramp receives limited use, mostly for hand-launched boats (e.g., canoes, kayaks, etc.)

Sea Cliff Village Beach is a key point of access to the harbor for small boats. This facility, which is available to Village residents, contains: a boat launching ramp; a sailing school, which operates during a limited period each year, and maintains dinghy storage racks on the western end of the site; and a recently established kayak club, which operates from the site during the summer.

Sea Cliff Yacht Club has approximately 135 senior members and six associate members (ages 21 to 31), predominantly from Glen Cove and the surrounding communities. Members moor their boats in the federal anchorage area situated immediately to the south of the mouth of Glen Cove Creek; the club maintains about 75 moorings in this area. Motor launch services to and from the mooring area are provided to members and transients. Fueling and vessel waste pumpout facilities are provided, but no vessel dockage is available at this location. The Yacht Club's property also includes a swimming pool and a beach. An important activity of this yacht club is its sailing school which primarily is attended by school-age children. There is a regular program of junior regattas each summer, with weekly competitions and the annual "Around the Sound" race (a major event typically involving hundreds of boats).

City of Glen Cove

Brewer's Yacht Yard is located at the western end of Glen Cove Creek's southern waterfront. The marina basin contains approximately 350 slips. None of these are dedicated for transients, although a reciprocal agreement exists with other marinas owned and operated by different Brewer marinas and yacht yards. The approximate capacity for winter storage at this site is 600 boats. Live-aboards are not permitted. Existing services include fresh water, electrical supply, 30- and 60- ton travelifts, a vessel waste pump-out facility, and a repair shop. Also available are marine supplies and ice, showers, restrooms, a picnic area, barbecue grills, a playground, swimming pool and phones. The marina recently completed improvements that include the installation of frost-free water hydrants, new electrical service posts, new bathroom facility, landscaping, the installation of a new fuel dock, and replacement of some of the docking structures.

The **Jude Thaddeus Glen Cove Marina** is a privately-owned marina located on the south side of Glen Cove Creek, just west of Morris Avenue. The marina has approximately 387 slips that are usually filled to capacity during the boating season. Winter storage is provided for approximately 600 boats in upland and in-water storage areas. Transients do not account for a significant source of business. Gas and diesel fueling are available on-site. Other amenities include marine and ice supplies, showers, restrooms, laundry facilities, a snack bar, public telephones, fresh water and electrical service, a 35-ton lift, and a repair service. The marina is open to the general public, with a maximum allowable length of about 90 feet.

The **Glen Cove Yacht Club** is a municipal yacht club with facilities consisting of a clubhouse, locker room, launch service during boating season, an asphalt parking area, dinghy racks, a fixed pier and floating docks, and a vessel waste pumpout facility (available to the public using tokens issued by the City Recreation Department). The club occupies roughly 0.41 acre of upland owned by the City of Glen Cove at the foot of McLoughlin Street, directly to the south of Morgan Memorial Park. The docking facility has a 20-minute tie-up limit for member vessels, but also is used by the Glen Cove Harbor Patrol, Nassau County Police Marine Unit, and special events. A self-regulating mooring area is available at this facility, immediately to the north of and outside the mouth of Glen Cove Creek. During recent years, club members have occupied 30 to 40 moorings in this area. The club is accessible to members only. Membership is open to City of Glen Cove residents, as well as individuals who reside outside the City. Glen Cove Yacht Club hosts the only Sea Scout Unit in Nassau County, which is co-sponsored by the City and the Lions Club. Also, the local Coast Guard Flotilla regularly meets at the club.

The **Hempstead Harbor Yacht Club** is a private yacht club maintained and operated by its members. Facilities consist of a boathouse, locker rooms, rest rooms, a bathing area, docking

facility for small craft, and a launch tender during boating season. A self-regulating mooring area is available for this facility, in the waters immediately to the north of the mouth of Glen Cove Creek, within which the club maintains about 40 moorings. Winter storage for approximately 40 boats is available in the Club's parking lot.

The **Garvies Point Boat Owners Association** is a private yacht club that is maintained by membership on one acre of land owned by the Nassau County Department of Parks and Recreation at the Garvies Point Preserve. Facilities consist of a small dock and boat storage area for dinghies and other small craft. The Association was established to provide access for boat owners to the special anchorage area.

The **Garvies Point Boat Ramp** is a City of Glen Cove facility located at the end of Garvies Point Road. It is designed for trailered boats, and access is limited to City residents.

3.3.1.4 Vacant, Deteriorated, and Underutilized Private Lands

The shorefront of Hempstead Harbor historically has been heavily used for industrial purposes. Although some of these uses still are in operation (Mobil-Exxon terminal in Glenwood Landing, and sand and gravel trans-shipment facilities in Port Washington and Glen Cove Creek), several facilities that previously were active have become idle or have fallen into disrepair. The parcels of vacant, deteriorated, and underutilized private land in the study area are shown on Map 3-3, and are described as follows. The redevelopment of these sites will play a pivotal role in the future of Hempstead Harbor and its surrounding communities.

Many of the vacant, deteriorated or underutilized properties along the harbor's waterfront are impacted by significant contamination due to past hazardous waste disposal practices which predated stringent environmental regulations that were enacted in the 1970s. Four sites (Shore Realty in Glenwood Landing, and Li Tungsten, Mattiace Petrochemical, and Captain's Cove in Glen Cove) are on both the Federal and State Superfund lists. Two additional sites (Crown Dykman and Powers Chemco in Glen Cove) are listed only under the State Superfund program. A number of additional properties (e.g., the Forest City Daly housing site in Roslyn, and the Harbor Fuel/Hin Fin and vacant Keyspan parcels in Glenwood Landing) either have undergone voluntary cleanup overseen by NYSDEC or are expected to be remediated under that program in the future.

A detailed description of the key parcels of vacant, deteriorated or abandoned land (as well as other important properties on the Hempstead Harbor waterfront) is provided in Chapter 4 of this report, which addresses the Quality Communities aspects of the project. Below is a summary of these properties.

Village of Sands Point

There are no vacant, deteriorated, or abandoned private lands in this portion of the Harbor Management Area.

The Payson property fronts on Long Island Sound, immediately to the west of East Creek, at Prospect Point, just outside the HMP study area boundary. Seven acres of this private vacant parcel are being offered for sale and potential future development.

Port Washington, Town of North Hempstead

The Harbor Links (former Morewood) property contains a vacant parcel of land, on the north side of the entrance roadway to site, which is jointly owned by the Town of North Hempstead and a private entity. The fate of this parcel has not been determined.

The waterfront area between Bar Beach and the Town of North Hempstead transfer station contains three small parcels of vacant, privately-owned land, identified as follows:

- 1.75 acres stretching along approximately 900 feet of shoreline, owned by Scotto Brothers Realty (Section 6, Block 53, Lot 1003); and

- 3.2 acres in two contiguous parcels, including underwater lands, stretching along approximately 200 feet of shoreline, owned by M&R Enterprises (Section 6, Block 53, Lots 1047 and 1049).

The Town has been negotiating with the respective owners to acquire these three parcels in order to complete the stretch of public land along this segment of the harbor shoreline, which will be developed into the Hempstead Harbor Shoreline Trail (see Section 3.3.1.5).

Village of Flower Hill

There are no vacant, deteriorated, or abandoned private lands in this portion of the study area.

Village of Roslyn

Forest City Daly Housing (FCDH) is planning to develop a senior residential facility with a waterfront park on an 11.077-acre parcel (known as Bryant Landing) in the Village of Roslyn located just north of the Roslyn Viaduct on the east shore of lower Hempstead Harbor. The project site previously had been occupied by various industrial uses, including an asphalt plant and Texaco gasoline and oil storage facilities, and has been vacant for approximately 15 years.

More recently, the area had been used illegally for dumping of general debris. As part of the site redevelopment, FCDH has undertaken the remediation of soil contamination that resulted from past uses, in accordance with the Voluntary Cleanup Program Remedial Work Plan that was negotiated with NYSDEC.

A vacant property is located on the west side of the harbor, just south of the Roslyn Viaduct. This parcel contains a warehouse building with a small office area. No active application is pending for redevelopment or reuse.

Village of Roslyn Harbor

There are no vacant, deteriorated, or abandoned private lands in this portion of the study area.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

The **Shore Realty** property currently is on both the State and Federal Superfund lists. This parcel occupies approximately 3.2 acres on the north side of the mouth of Motts Cove, in the Town of North Hempstead portion of Glenwood Landing. Between 1939 and 1972, the bulk storage of petroleum products occurred at this location. Mattiace Petrochemical Company leased the parcel from 1974 to 1980, and used it to store various solvents. Numerous spills are reported to have occurred during Mattiace's tenancy. Applied Environmental Services subsequently used the site to store and blend waste solvents. Shore Realty purchased the property in 1983 for the purpose of constructing a condominium development. However, soils and groundwater at this location were found to contain high concentrations of organic compounds, resulting in a Consent Order involving a large number of responsible parties. In 1986, a NYSDEC-funded project removed from the site 700,000 gallons of liquid hazardous waste that were being stored in five large tanks and numerous smaller tanks and containers. In 1995, a long-term remedial action commenced on the site, involving the operation of groundwater treatment and soil vapor extraction systems.

The **Harbor Fuel/Hin Fin** property comprises three separate tax parcels on the east shore of Hempstead Harbor, directly to the north of the Shore Realty site. The inland parcel, comprising about 1.5 acres, is privately owned and operated as a fuel distribution facility. The two waterfront parcels, each at approximately 1.25 acres, are owned by the Town of North Hempstead; the northerly one of these parcels has been leased to Harbor Fuel/Hin Fin for many years. In the late 1990s, a plan was presented to the Town by B&G Development consisting of a 60-unit condominium complex covering the entire four-acre site. Thereafter, a contract of sale was negotiated for the Town-owned portion of the site, with closing contingent upon rezoning to accommodate the condominium proposal and completion of the site plan and environmental review processes. As part of the development plan, the project sponsor would undertake

remediation of the entire property, and would include suitable public access to and along the waterfront. At that time, consideration was being given to using a vacant Harbor Fuel/Hin Fin property on the east side of Shore Road for subsurface sewage disposal, although further studies would be required to verify the feasibility of this approach. In the summer of 2002, the developer presented a revised plan which, although involving the same number of units, would place them in 65-foot tall buildings, as compared to the 35 feet specified in the original plan. In the amended plan, the developers also indicated their desire to pursue a sewer connection through Glenwood Landing and Sea Cliff to the Glen Cove wastewater treatment plant, which has generated significant concern among area residents, and would require further investigation. The proposed rezoning of the subject property was issued a Positive Declaration by the North Hempstead Town Board under the State Environmental Quality Review Act (SEQRA), and a public scoping session was conducted in June 2003. At the time of this HMP report, the Environmental Impact Statement was in the process of being prepared.

Scudders Lane road end lies between the Shore Realty and Hin Fin properties. For many years, this right-of-way has been an attractive location for the dumping of various types of debris, including derelict boats, an activity that probably has been encouraged and facilitated to a certain degree by the prolonged vacancy of the adjacent properties.

A **Keyspan Property**, comprising three contiguous tax parcels, is situated on the eastern shore of the harbor, in the Town of Oyster Bay portion of Glenwood Landing, between the Gladsky property to the south and Tappen Marina to the north. These three lots currently are vacant, and have a combined total land area of 7.9 acres. Previously the southern portion of the site was occupied by a storage facility for propane, which was used by KeySpan to augment gas supplies to customers during cold days. The propane storage tank farm (and the associated propane processing plant that was situated across Shore Road) has been decommissioned and all of the former underground storage tanks have been removed. In 2002, a remedial action by KeySpan was completed on this property under NYSDEC's Voluntary Cleanup Program, which entailed the removal and proper disposal of some contaminated soil and the placement of an impervious soil cap over a portion of the site. This action also entailed the removal of the woodland that had occupied the northern portion of the site, to the north of the former propane tank farm; the tidal pond on this lot was retained, and is protected along its upland edge by a stone wall. The cleanup on the southern half of the site (i.e., the former propane tank farm) allows the property to be used for "restricted" residential purposes. The northern half of the site (i.e., the former woodland area) has been remediated to a level necessary that allows recreational and open space uses. The new 79.9-megawatt gas turbine power plants constructed by Keyspan/LIPA are located on the east side of Shore Road, just outside the Harbor Management Area, on land that had contained the propane processing facilities.

<u>Village of Sea Cliff</u>

There are no vacant, deteriorated, or abandoned private lands in this portion of the study area.

City of Glen Cove

The Glen Cove Creek corridor historically was a regionally important focal point for marine-commercial industrial activities in the Hempstead Harbor area. Although the creek's shoreline still contains a concentration of marine-commercial uses, including a ferry terminal and several marinas and boat yards, many of the industrial uses have ceased to operate. Consequently, several vacant, deteriorated, and abandoned parcels occupy the waterfront of the creek, especially on the north side. Many of these properties are burdened with significant contamination, while other parcels are less impacted "brownfield" sites. Because of these circumstances, the City's waterfront on Glen Cove Creek was identified by New York State in Long Island Sound Coastal Management Program (draft 1995) as a waterfront redevelopment area, and subsequently was designated by the U.S. Environmental Protection Agency in 1997 for a Brownfields Pilot initiative. These programs has been instrumental in advancing the City's community-based efforts to revitalize 214 acres that have been targeted for assessment, cleanup and redevelopment. This long-term revitalization effort is ongoing, and is being overseen by the Glen Cove Community Development Agency, in cooperation with the City Department of Public Works.

The **Mattiace Petrochemical Company** property is an approximately 2.5-acre site that contains an inactive chemical distribution facility on the north side of Garvies Point Road. This property lies just outside the study area boundary, but is included in this discussion because it has been impacted by severe contamination (it is a federal Superfund site) and will play a key role in the redevelopment of the Glen Cove Creek corridor. Preliminary site assessments under the New York State Superfund program commenced in 1984. However, the property was seized by the State of New York in 1987, after many years of failed negotiation and litigation, and was placed on the Federal Superfund List two years later. The EPA eliminated immediate threats to nearby residents and the environment by securing the site and removing 100,000 gallons of flammable hazardous liquids in 1989. A remedial action completed in late 1996 included the removal of all site structures, underground storage tanks, piping and other buried structures. An integrated groundwater and soil vapor treatment facility commenced long-term operation in 1999. The primary threat to the Harbor from this site currently is contamination through stormwater runoff.

The **LI Tungsten** site is an approximately 26-acre, abandoned industrial facility comprising three separate parcels on Herb Hill Road, Dickson Road, and Garvies Point Road, including a waterfront parcel near the head of Glen Cove Creek. The site has a long history of industrial use, extending back at least as far as the late 1800s. Tungsten processing commenced on the

site in the early 1940s. The site was purchased by the Glen Cove Development Corporation (GCDC) in 1984 for private residential development. In 1989 and 1990, the GCDC undertook remediation ordered by the EPA, which resulted in the removal of the most serious chemical and radiological hazards at the site. However, significant contamination still remained on-site, and the property was added to the Federal Superfund list in 1992. The property went into receivership and was held in trust by the State of Maryland, until it was purchased by the City of Glen Cove Industrial Development Agency in 1999 for the purpose revitalizing the site with a mix of uses. Between 1996 and 1998, the EPA performed a second remedial action to address contaminants in chemical storage tanks on the site. The removal of contaminated ore residues and soils on the southern half of the Li Tungsten property was completed in early 2002. The contamination on the northern portion of the Li Tungsten property is being addressed during the Phase 2 remediation work. In addition, the EPA is cooperating with the U.S. Army Corps of Engineers to assess the extent of contamination still remaining in the creek.

The **Captain's Cove** site is located on the north side of Glen Cove Creek, near the mouth of the creek, west of the Li Tungsten property. The Captain's Cove site comprises approximately 25 acres and is located at the terminus of Garvies Point Road, on land that was formerly used as a landfill by the City of Glen Cove for the disposal of construction and demolition debris, hazardous waste, and solid waste. Village Green Realty purchased the site in 1981 from the City, and proposed a 238-unit condominium development. Construction of this project began in 1984-85, but was halted after routine test results indicated the presence of various contaminants above safe limits. Subsequently, Village Green Realty went into bankruptcy, and the property was held in trust by the State of Maryland. In 1996, the USEPA agreed to remediate the site as part of the Li Tungsten clean up project, instead of listing the Captain's Cove parcel as a separate, new site. The remedy includes a deed restriction which will limit future uses. In 1999, the City of Glen Cove Industrial Development Agency acquired the property, with the goal of eventually implementing a mixed use development on this site, in conjunction with the redevelopment of the nearby Li Tungsten property. That same year, the City demolished the empty condominium shells, which stood as an eyesore on the waterfront for more than a decade. It was discovered that the site also was used as a disposal area for tungsten ore by the operations of the Li Tungsten facility, which entailed the deposit of radiological wastes. The removal of these wastes to a disposal facility has been completed.

The **Former Gladsky Site** occupies approximately one acre of land on the north side of Glen Cove Creek. This parcel currently is vacant. Previously, the site had been used for a marine salvage facility, until the Gladsky operation was relocated to Glenwood Landing in 2001.

The privately-owned **Doxey** parcel currently is used for a salvage operation. This property is a significant eyesore, and the City is working with the owners to relocate their facility, in order to free the site for redevelopment as part of the Glen Cove Creek Revitalization Plan.

The **Sea Isle Marina Properties, LLC** site occupies a low-lying peninsula extending into the mouth of Glen Cove Creek from its southerly shore. This property occupies a total of six acres, including a significant area of underwater lands. A series of unfulfilled development plans has been proposed for the site by various owners over the years, the most recent being a condominium complex of 36 units, with a 22-unit reduced density alternative, as presented in a Draft Environmental Impact Statement dated October 2001. The controversy regarding this parcel is connected to the history of the site. The Sea Isle peninsula originally was part of a sand bar that extended from the north side of the mouth of Glen Cove Creek. However, the U.S. Army Corps of Engineers straightened the federal channel in the creek in the 1930s in order to provide a more direct and safer route for vessel access. As a result, the original peninsula was severed to create a small island just south of the creek's new mouth. In the early 1960s, the water area between this island and the shoreline on the mainland to the south was filled to create access to a restaurant on the site. Eventually, this use was abandoned, and the property became overgrown. All subsequent attempts to develop the site have been impeded by significant environmental constraints - including an extensive area of tidal wetlands and 100-year floodplain - and uncertainty regarding the true ownership of the filled area that originally was underwater land.

3.3.1.5 Recreational and Open Space Lands

The Harbor Management Area contains a broad array of recreational and open space lands, both public and private. These lands serve both passive and active recreational needs, and include both facilities that are water-dependent (e.g., marinas, fishing piers, swimming areas, boat launching ramps, etc.) and those which do not require a location on the waterfront (picnic areas, ball fields, playgrounds, golf courses, etc.), as well as properties that are undeveloped but which serve open space purposes (e.g., wildlife habitat, visual relief from the built environment, informal pedestrian access, etc.).

Public facilities (e.g., marinas and boat ramps) that provide access to Hempstead Harbor for recreational boats are discussed in Section 3.3.1.3, above. All other recreational and open space facilities within the study area are described as follows (see Map 3-3 for the location of these sites):

<u>Village of Sands Point</u>

A **Private Bird Sanctuary** property is located at the northwestern tip of the study area, along East Creek near Prospect Point. This preserve consists of roughly 33 acres and is covered by thick natural plant growth. This vegetation hinders access to the shoreline, either from the landside or the waterside.

Sands Point Nature Preserve is a 216-acre passive-use outdoor recreational area, which highlights the native natural environment of Long Island. The Preserve, a Nassau County facility, consists of glacial boulders, sandy cliffs, woodlands with six nature trails, and a one-mile shoreline along the Long Island Sound. Also on the premises is Castlegould, a large castle that was built in 1902 by railroad heir Howard Gould, and then taken over by Daniel Guggenheim; as well as Falaise, a Normandy style manor house built by Harry F. Guggenheim in 1923. The property eventually was sold to the federal government to preserve natural resources and local historic heritage. Nassau County acquired much of the land in 1971 to create a preserve, historic site, and museum.

The **Village Club of Sands Point** covers over 200 acres which were purchased by the Village in 1994 for use by local residents. There are approximately 500 members. The property had originally been the estate if Isaac Guggenheim, and was then used by the IBM Corporation as an executive training center and country club for its New York area employees. The facility has undergone extensive renovations in recent years, converting the golf course from nine-holes to eighteen-holes. In addition to the golf course, there are also fourteen tennis courts, a standard competition-size pool and a new modern playground near the waterfront. Some sunbathing occurs on the Club's 1,900 feet of shoreline. But as a significant portion of the Village is on the waterfront, many residents in Sands Point have their own private beaches, and are therefore drawn to the Club for other recreational and social reasons. Also, a one-and-a-half acre pond has been created to hold the 3.5 million gallons of water used for the irrigation system.

Port Washington, Town of North Hempstead

Bar Beach Park is located on West Shore Drive in Port Washington. The Park consists of a bathing beach, picnic areas, a concessions stand, basketball courts, horseshoe pits, a fishing area and a pier, a boat ramp, and a playground. A vessel pump-out facility is available as well. The park often houses special events for the community on its grounds. The park is open from Memorial Day weekend to Labor Day weekend. Hours of operation are from 9 a.m. to darkness, with lifeguards on duty from 10 a.m. to 6 p.m. A parking fee is collected at this beach.

Hempstead Harbor Park is a Nassau County facility located directly to the north of Bar Beach. There is a diverse selection of recreational opportunities on this 60-acre beachfront property. These include basketball, shuffleboard, handball/paddleball, volleyball, badmitton, softball, and a playground for small children. There is also a picnic area with tables and grills, as well as a games area, an aerodrome for radio-controlled model airplanes and a drop-line fishing pier. There is an elevated and fully paved promenade that runs along the 2,400-foot beach and

connects with the fishing pier, with sitting areas that overlook the harbor. Parking is available for 1,000 cars and a fee is charged.

Notwithstanding the presence of the various amenities outlined above, Hempstead Harbor Park is considered by many to be a significantly underutilized resource, and presents the opportunity for enhanced public access to the harborfront. However, any redevelopment or expansion of facilities should be undertaken with public input to ensure the requisite public support.

The **Harbor Links Golf Course** is owned by the Town of North Hempstead and operated by Arnold Palmer Golf Management. The Town reclaimed more than 400 acres of an abandoned sand mine and turned it into an environmental showcase and an ecological model for recreational facilities around the country, first opening in 1998. A Natural Resource Management Plan (NRMP) was designed for the property, which addresses the following issues: wildlife conservation and habitat enhancement; water quality monitoring and management; integrated pest management; water conservation; energy efficiency and waste management. A great deal of investment was made in the restoration of wetlands grasses and special insect tolerant grasses to reduce the need for pesticides. As such, Harbor Links recently received the prestigious designation of being certified as an Audubon International Signature Sanctuary.

The **Hempstead Harbor Shoreline Trail** is an ongoing project being undertaken by the Town of North Hempstead which, when completed, will provide continuous access along approximately 7,000 linear feet of frontage on the harbor's western shoreline, extending between the Town's Bar Beach facility at its northern end and the Village of Flower Hill at its southern end. This passive parkland, which is targeted to hiking, bird-watching and educational opportunities, encompasses the land to the east of Shore Road which, with the exception of three small parcels shown as vacant private land on Map 3-2 (Land Use), is under public ownership. The Town recently purchased the 4.2-acre Island Tennis property (also known as Harbor Tennis Center and Roslyn Racquet Club) in the central portion of the trail, and is seeking to acquire the remaining three parcels.

The design of the shoreline trail includes five key elements: passive recreation, environmental education, shoreline access, habitat enhancement, and stormwater management. Access will be formalized at three locations: the Bar Beach parking lot at the northern end, Harbor Park Drive North in the middle reach, and Flower Hill at the southern end. Bicycling on the trail is deemed to be inconsistent with the habitat preservation and enhancement objectives of the project and, therefore, will be discouraged.

Phase I of the trailway was completed in 2001. It stretches southward from Bar Beach Lagoon (i.e., the cove area to the immediate south of Bar Beach) and terminates at the Scotto Brothers Realty parcel (Section 6, Block 53, Lot 1003 - see Section 3.3.1.4). The extension of the trailway is currently being evaluated by the Town.

The rehabilitation of Bar Beach Lagoon is being performed under a wetland restoration initiative by the U.S. Army Corps of Engineers. This project entails the removal of rubble and a band of encroaching *Phragmites*, shoreline grading and stabilization, and planting of intertidal marsh grass (*Spartina alterniflora*). The elimination of invasive plant species and replacement with native vegetation also is a priority for habitat enhancement in the upland zones of the trail. Other work that is planned as part of this long-term, multi-phase project includes:

- acquisition of the three parcels of land along this section of shoreline that remain in private ownership (as identified in Section 3.3.1.4) or negotiation of suitable easements across these properties or, if access to these parcels cannot be obtained, investigation of a trailway route using only public waterfront lands and the Shore Road right-of-way;
- construction of a six-foot wide trail along the entire length of the park, using a soft surface composed of blended gravel or recycled concrete, with suitable crossings over wetlands, streams, and drainage swales;
- installation of overlooks, rest stops, and appropriate signage; and
- restoration of the barren concrete spoil area in the central portion of the trail.

Village of Flower Hill

The Town of North Hempstead recently granted the Village of Flower Hill a small parcel of land on the harbor shoreline, just north of the Roslyn Viaduct, which provides the opportunity for passive recreational access directly to the harbor, with a northward connection to the Hempstead Harbor Shoreline Trail. There are no other recreational facilities or open space lands in the Flower Hill portion of the study area.

Village of Roslyn

Roslyn Grist Mill, an historic landmark dating back to circa 1735, is currently closed pending restoration. The mill is located at the mouth of the creek (Roslyn Creek) which discharges to the head of Hempstead Harbor. The Grist Mill is owned by the Nassau County Department of Parks, Recreation and Museums. Restoration plans for this facility include installing textured plywood to replace the decaying concrete sheathing that was placed on the buildings walls, constructing a new foundation and raising the entire structure about four feet so that it is level with the adjacent roadway, creating pedestrian access to the area north of the mill, and restoring the mill to its original appearance, which will include a working water wheel and grindstones.

The **Roslyn Pond Park** system is a public passive park, owned by the Town of North Hempstead, which spans between Main Street and Broadway at the southern tip of the Harbor Management Area. The park provides passive recreational facilities, including a series of walkways, and contains a system of four freshwater ponds (Silver Lake, Roslyn Pond, and a smaller un-named pond), all of which are interconnected by a series of streams. This drainage system ultimately discharges into the head of Hempstead Harbor, via the outflow at Roslyn Grist Mill. Roslyn Pond Park currently is the target of a restoration project, whose main goal is to enhance water quality and aquatic habitat quality. The work will include upland drainage improvements, habitat restoration and erosion control. There also is discussion of creating a promenade to link the park system to a proposed senior housing development at Bryant Landing which will include a public waterfront park.

Several roadways in the Village of Roslyn offer residents informal access to the waterfront. These include: Lumber Road on the west side of the harbor, extending northward from Old Northern Boulevard; and Skillman Road, Landing Road, and Roosevelt Avenue on the east side of the harbor, all of which extend westward from Broadway in the vicinity of the Roslyn Viaduct.

Village of Roslyn Harbor

Cedarmere, which is listed on the National and State Registers of Historic Places, was the home of the 19th century American poet and newspaper editor, William Cullen Bryant between 1843 and 1878. This 200-acre estate, occupying the southern portion of Roslyn Harbor's waterfront, currently is owned by the Nassau County Department of Parks, Recreation and Museums. The estate includes the main house, restored gardens, a Gothic revival mill, and a pond spanned by a stone bridge. Activities on the grounds include tours, nature walks, poetry and music programs, and art lessons. The facility has plans to construct an observation deck that will overlook Hempstead Harbor.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

The North Hempstead portion of Glenwood Landing currently does not contain recreational facilities. However, discussions regarding the redevelopment of certain parcels of vacant industrial land in this area (i.e., the Hin Fin and Shore Realty properties, on the north and south sides of Motts Cove) have generally included the facilities for public access, targeted to creating recreational opportunities in the future. In addition, Motts Cove is a popular location for bird-watching, although no formal park facilities are presently available in this area.

The Oyster Bay portion of the Glenwood Landing waterfront contains two public recreational properties, described as follows.

Powerhouse Park (also known as Glenwood Landing Park) is a small parklet that is situated immediately north of Keyspan's Glenwood Landing Power Station and south of the Mobil-Exxon petroleum dock. This passive park facility is undergoing improvements to encourage public access, including the installation of a new steel sheet-pile bulkhead, railings, brick pavers, benches, and landscaping. The Powerhouse Park property historically has provided a scenic vantage point for viewing the harbor and Bar Beach, and has served to soften the industrial character of the area, a role that will be re-emphasized when the planned improvements have been completed.

Harry Tappen Beach Park is a 25-acre facility which spans between the Town of Oyster Bay portion of Glenwood Landing and the Village of Sea Cliff. The Tappen Beach facility occupies approximately 2,000 feet of shoreline on the harbor, and includes both active and passive recreational facilities. The park's public amenities include: a public marina (see Section 3.3.1.2 for further discussion); an approximately 500-foot long bathing beach; playgrounds; boat launching ramp; boat storage racks; outdoor freshwater swimming pool; picnic area; fishing pier; outdoor roller hockey rink; and vehicle and trailer parking area.

In addition to these recreational amenities, other support facilities including a free-of-charge vessel pump-out station, public restrooms, showers, a gas dock, boat-washing area, drinking water fountain, public telephone, vending machines, sun shelter, 4,000 linear feet of jogging/walking paths, and lifeguard and first aid stations for both the pool and harbor swimming areas. In addition, the park offers a spectacular view of Hempstead Harbor and the opening to Long Island Sound. The Town and Village of Sea Cliff have considered establishing "overlook shelters" both at the fishing pier and the north groin to take further advantage of the views. A parking fee is charged at Tappen Beach, with seasonal passes available to Oyster Bay residents and daily admission applying to others. Senior citizens may obtain free passes with their senior citizen's ID cards (as may disabled persons).

North Shore Country Club encompasses a land area of 158 acres, with 83.5 acres in the unincorporated community of Glenwood Landing in the Town of Oyster Bay and 74.4 acres in the Village of Sea Cliff. The Country Club property contains a number of buildings, including the main clubhouse, and eight small cottages (approximately half of which are year-round residences), an 18-hole golf course, outdoor swimming pool, and several tennis courts. This private membership club is closed in February and has limited activity in November, December, January, and March. During its months of operation, the facility is open six days a week and is closed Mondays, except for occasional special outings. The country club has been in operation

since 1896 and prior to its opening the land contained an estate. The club presently has 190 members.

It is noted that the entire Glenwood Landing waterfront area is identified in the 2002 New York State *Open Space Conservation Plan* as a priority project for a waterfront greenway. The Regional Advisory Committee for Region 1 (covering Nassau and Suffolk Counties) recommended the acquisition of parcels (or establishment of easements) necessary to create a continuous two-mile long waterfront greenway between Roslyn Harbor and Sea Cliff, which potentially could extend as far north as Glen Cove.

Village of Sea Cliff

The portion of the study area lying within the Village of Sea Cliff contains a diverse inventory of recreational lands, which are described as follows:

Sea Cliff Village Beach is a 1.2-acre site located on The Boulevard (Front Street), east of the former Sea Cliff Dock Property. This facility is owned and operated by the Village of Sea Cliff and is open to Village residents. The Village Beach contains a swimming float, a boat launching ramp, a small equipment storage building (used by the Sea Cliff Sailing School), barbecue grills and picnic tables, one outdoor shower, a children's play area, a one-story bathhouse and a wide stretch of beach. The bathhouse has controlled access with a handicap ramp, and contains public restrooms (without showers), a first aid station and a concession area. During the summer season, the beach is utilized during the day for active recreation and in the evenings for occasional events such as concerts. There is controlled parking available at the eastern end of the site, adjacent to the boat launch ramp, and across the street, along the south side of the Boulevard. During certain times of the year, traffic flow along the Boulevard is restricted to one-way travel.

Sea Cliff Park, also known as Dock Hill or Cliffside Park, is the former Sea Cliff Dock site. This 0.2-acre property provides excellent views of Hempstead Harbor. It contains a small lawn area with benches and a wooden railing along the waterfront. The perimeter of this park is supported by a wooden bulkhead that extends along the shorefront of the 18 Trails Property. Maintenance of this park is the responsibility of the Nassau County Department of Recreation and Parks. This park is a popular site for fishing and scenic viewing. No on-site parking is available, and vehicles must be parked along the south side of the Boulevard, adjacent to the property.

The **Cliff Way Conservation Area** is a 0.6-acre property owned by the Village of Sea Cliff. This property primarily comprises an undeveloped, heavily wooded, steep slope that extends up from the Boulevard to Cliff Way. It contains a stairway that provides access to the Village

Beach from Cliff Way and a secondary parking area for the Village beach facility. A lookout platform, which provides views of Hempstead Harbor, is located on the north side of Cliff Way, at the top end of the property.

Sea Cliff Memorial Park is an approximately one-acre, Village-owned property comprised of a steep wooded hillside and a formally developed park area. The upper portion of the park is located along Prospect Avenue at Twelfth Avenue, and contains a war memorial and flagpole, a circular slate walkway and benches that provide excellent views of the harbor from atop the hillside. This park is landscaped with a lawn, trees and shrubs and provides a pleasant environment for passive recreation. The edge of the wooded hilltop is bounded by a split rail fence.

The **18 Trails Conservation Area**, also known as Pinnacle Point Park, is a 1.8-acre property owned by the Village of Sea Cliff. This parcel is the former location of the inclined railway that ran from the Sea Cliff Dock up to the top of the bluff (previously known as Circle Avenue) and was acquired by the Village from the Sea Cliff Grove and Metropolitan Camp Ground Association, who formerly owned the Sea Cliff Dock and operated the railway. The 18 Trails conservation area is undeveloped, steeply sloped and heavily wooded. Access to the Hempstead Harbor shorefront is provided from this site via a stairway (known as the 14th Avenue or Tilley steps) located near the southern property line. This site has no formal access from top to bottom. Fencing has been installed at the upper end to prevent incursion onto the sensitive slope area. A line of railroad ties has been placed further down the slope, which has abated some of the active gullying. An area of bulkheading stretches along the base of this property, which extends north to connect with the bulkheading at Sea Cliff Village Park. The area behind the bulkhead provides a formal walkway for shorefront users.

In 1970, the Village of Sea Cliff received a grant from the New York State Office of General Services for approximately 8.2 acres of underwater lands located seaward of the 18 Trails Conservation Area. These submerged lands are situated contiguous to the twelve acres of underwater lands that were granted to the Village in 1938, and extend an average of 500 feet out from the mean high water line. The southern boundary for this land grant runs as a contiguous to, and as a seaward extension of, the southern property boundary for the 18 Trails site.

Shore Road Promenade is situated along the western side of Shore Road in the Village of Sea Cliff. The promenade consists primarily of a concrete walkway that extends south from Rum Point to the north end of the Town of Oyster Bay's Tappen Beach facility, and provides pedestrian access between these two sites. The promenade also provides a continuous link between Tappen Beach and the Sea Cliff Village shoreline that extends north of Rum Point, along the toe of the bluff. Thus, at extreme low tide, pedestrians can walk along the shoreline between Tappen Beach and the Village Beach in the mouth of Glen Cove Creek.

Rum Point is a small parcel of waterfront property located at the southern terminus of the bluff in Sea Cliff, west of Prospect Avenue. This site is owned by the Town of Oyster Bay. The upper portion of the property contains a small lawn area with benches for scenic viewing. The perimeter of the site slopes to the shore and is hardened with stone rubble for erosion protection. Pedestrian access is the primary means of entry to this park. Limited vehicular parking is available along Shore Road for park users.

Scudder's Pond is a freshwater body located on the North Shore Country Club property, on the eastern side of Shore Road/Prospect Avenue. The pond is owned by the country club, but the Town of Oyster Bay and Village of Sea Cliff have surface rights which allow the site to be available to the public during winter months for ice skating (at one's own risk). This also is a popular location for bird-watching. In recent years, the pond has suffered from significant algal blooms. The Village of Sea Cliff has been engaged in discussions with the country club regarding the maintenance of the pond, and the Village is considering an offer by the country club to donate the pond to the Village.

Fishing is popular in the Village of Sea Cliff. Several locations are available to the public for this use, including Sea Cliff Beach, Sea Cliff Park, the shoreline near Rum Point, Tappan Beach, and at various private residential properties along the shorefront.

City of Glen Cove

The City of Glen Cove has extensive parkland and open space on the waterfront, including three public beaches owned by the City, parks and preserves, and community association facilities; as well as informal points of public access to the harbor, primarily via road ends. Shore-based fishing is permitted from the shore at City beaches, as long as it occurs at least 300 feet from designated bathing areas.

Morgan Memorial Park is located about one-half mile to the north of the mouth of Glen Cove Creek. This property originally was leased for $1 to residents of Glen Cove and Locust Valley by J.P. Morgan, in memory of his wife. Because of this arrangement, the park is open to residents of both the City of Glen Cove and the community of Locust Valley. The site includes a bathing area that extends along approximately 200 feet of shoreline on Hempstead Harbor, as well as a gazebo and concert stage, concession stand, fishing pier (where Glen Cove Yacht Club is located), a picnic area, playground equipment, and a basketball court. Paths in the park allow for walks along bluffs that overlook the Sound.

Crescent Beach is located just to the south of the terminus of Crescent Beach Road. This small parcel has a beachfront of approximately 130 feet on the open waters of Long Island Sound at the mouth of Hempstead Harbor. No other facilities are provided at this location.

Pryibil Beach is an eight-acre property, originally part of the Paul Pryibil Estate ("Bogheid"), which is located at the end of a small barrier spit in the northeast corner of the Village on East Island. The park includes frontage on both Long Island Sound and Dosoris Pond, with about 260 feet of the Sound shoreline used as a public bathing beach. Pryibil Beach also contains a small float, but diving is not permitted. Other amenities include a fishing pier, volleyball courts, basketball court, playground, barbecue grills, concession stand, and an adjacent fishing pier.

Within Glen Cove City limits, there are approximately 266 acres of nature preserve, which include the following two properties owned by Nassau County:

- The **Garvies Point Preserve** covers about 62 acres just to the north of the mouth of Glen Cove Creek. The site contains five miles of marked nature trails, fresh water ponds and swamps, a coastal salt marsh and an approximately 2,000-foot stretch of shoreline on Hempstead Harbor. It also has a center for research on Long Island Native American archaeology, and is a valued resource in the study of Long Island's geology.

- The **Welwyn Nature Preserve** consists of 204 acres at the mouth of West Pond, at the north end of the City. Once the home of Harold Irving Pratt, the site now houses the Nassau County Holocaust Memorial Museum. There are nature trails that are open daily to the public. The property contains about one-quarter mile of frontage on Long Island Sound, and a slightly greater length of shoreline on West Pond.

The **Glen Cove Municipal Golf Course** is located on the south side of Dosoris Pond, in the northeast corner of the City. This 18-hole course is open to both City residents and non-residents, and provides beautiful views overlooking the pond in the foreground and Long Island Sound in the distance. The golf course has a pro shop, a driving range and a restaurant, the Soundview Café. The site is also home to Nick, a professionally trained Border Collie, whose job it is to chase geese from the golf course. Nick has been trained not to bark, so as not to disturb golfers, and he does not harm the geese in any way. **Stanco Park**, which offers tennis courts and a playground, is located adjacent to the golf course.

The first section of the **Waterfront Esplanade** was officially opened in September 2003, marking another milestone in the ongoing redevelopment of the Glen Cove Creek waterfront.

This passive recreational facility includes a pedestrian pathway, gazebo, benches, and a water fountain along the Captains Cove section of the north shore of the creek. The esplanade also is home to a replication of the three-masted barkentine *Regina Maris*, which was constructed using materials and salvaged artifacts from the original ship, including the three masts, captain's wheel, the bow, figurehead and mast rigging.

A number of semi-private, community beaches exist in the City of Glen Cove, which are restricted to the residents of specific geographic districts. These include East Island Beach, Red Spring Colony Beach, Shorecrest Beach, and the North Country Colony Beach, described as follows:

- The **East Island Beach Association** is responsible for maintaining a semi-private beach located on East Island, at the northern tip of the study area. Facilities consist of a bathing area and a swim float.

- The **Red Spring Colony Beach Association** maintains a semi-private beach at Red Spring Point. Facilities consist of a bathing area and a swim float.

- The **North Country Colony Beach Association** maintains a semi-private beach on a small parcel of land that is leased from the City at the southern end of Crescent Beach. Facilities consist of a clubhouse, a bathing area and a swim float.

- The **Shorecrest Beach Association** maintains a semi-private beach located on Landing Road, adjacent to Morgan Park. This site contains no facilities.

There are several street ends in the City of Glen Cove that offer the public informal access to the water; these include Garvies Point Road (which also is the site of the City boat ramp), Crescent Road and McLoughlin Street. Also, on East Island, there are three street ends that provide residents of that area with waterfront access: Dock Place (at Shell Drive), Soundbeach Drive and Southland Drive. These three street ends are maintained by the East Island Beach Association, and have been designed to offer a passive recreational opportunity, including such amenities as a small float, and chairs or benches to sit and enjoy the views of the Sound.

The **Glen Cove Anglers Club** is a private fishing club that utilizes an approximately one-acre parcel of City-owned land on the north shore of Glen Cove Creek. This parcel, lying between Captain's Cove and the former Gladsky site, contains dockage facilities, a small clubhouse, and upland storage for boats. The **Matinecock Rod and Gun Club** is located on Dosoris Lane.

3.3.1.6 Water-Enhanced Uses

A water-enhanced use is one that derives substantial benefit from a location on the water or at the shoreline, but does not require such a location in order to function. According to the accepted definition under the New York State Coastal Management Program, water-enhanced uses should provide some degree of open access to the water for aesthetic enjoyment, even if such access is limited to paying customers. Restaurants and inns often are cited as typical examples of water-enhanced uses.

Currently, there are a limited number of water-enhanced uses within the Harbor Management Area, including the following:

- **Swan Club** – This facility is located at the southwest corner of the intersection of Scudder's Lane and Motts Cove Road, and provides catering services for special events and business functions.

- **Steamboat Landing Restaurant** - This restaurant, drinking establishment and catering facility is situated on the south side of Glen Cove Creek, in the City of Glen Cove. The outdoor seating that is available in fair weather provides a popular location for dining and socializing in a nautical atmosphere, which affords views of the creek, including the Glen Cove Marina immediately to the west. Dockage is available for patrons.

- **Soundview Café** - This restaurant, situated on the Glen Cove Municipal Golf Course property, is located on the south side of Dosoris Pond, in the northeast corner of the City.

There are a number of water-enhanced recreational facilities in the study area, such as golf courses, playgrounds, and picnic areas, which are discussed in Section 3.3.1.5. Current plans for the revitalization of the north side of Glen Cove Creek includes additional water-enhanced development, including a maritime museum and hotel/conference center.

3.3.1.7 Other Uses

The second most common land use in the study area (after open space/public recreation), in terms of percentage of land cover and linear frontage on the harbor, is residential. Private homes are not water-dependent, and generally are not considered to be water-enhanced because access is strictly controlled and limited by the owners or occupants. Residential waterfront property is concentrated in the following locations in the study area (see Map 3-2):

- Sands Point, where single-family home sites cover the entire frontage of the shoreline that lies outside the Village's three large open space/public recreation parcels (i.e., the private bird sanctuary, Sands Point Nature Preserve, and Village Club of Sands Point);

- the Beacon Hill Bungalow Colony, at the northern end of Port Washington (just south of the Village of Sands Point and north of the sand and gravel operations), which originally was developed as a workers' community for the sand mining industry, later became an affluent summer community, and subsequently was converted for year-round occupancy;

- Roslyn Harbor, where the majority of the harbor frontage is occupied by single-family home sites;

- Sea Cliff, where single family home sites occupy a large portion of the Village's bluff-top frontage on the harbor; and

- Glen Cove, where the majority of the City's waterfront property to the north of Morgan Park comprises single-family home sites.

There also are a few residential structures on the north side of Shore Road, in the City of Glen Cove, mixed in among the marinas on the south side of Glen Cove Creek.

The Harbor Management Area contains a variety of other land uses that are neither water dependent nor water-enhanced. These include: the Town of North Hempstead's solid waste transfer station, on the west shore of the lower harbor; City of Glen Cove municipal facilities, on the south side of Glen Cove Creek; a Nassau County Public Works facility, also on the south side of the creek; and various commercial establishments (e.g., A-1 Carting and Tank Specialists) on the south side of the creek, near its eastern end.

The **Webb Institute of Naval Architecture** is located on 26 acres at the mouth of the harbor, immediately to the west of the Welwyn Preserve in the northern portion of the City of Glen Cove. This school focuses on civil, electrical and mechanical engineering. It was founded by William H. Webb, one of the foremost shipbuilders in America in the second half of the 19th Century. The school offers one major, Naval Architecture and Marine Engineering, and currently has 85 students. Every student receives a four-year, full-tuition scholarship, as arranged by the endowment left by Mr. Webb.

3.3.2 Zoning

The zoning in the study area is illustrated in Map 3-4, and is summarized in Table 1 and in the narrative discussion below. Similar zoning classifications in different municipalities have been grouped together for simplicity. This includes the grouping of residential districts into three categories: R1 = minimum lot size greater than one acre (i.e., two acres or greater); R2 = minimum lot size greater than one-half acre, but less than or equal to one acre; and R3 = minimum lot size less than or equal to one-half acre.

It should be understood that although the development pattern in the HMP study area (as illustrated in Map 3-2) generally follows the zoning, this is not always the case. In particular, parcels of land that have a park or recreational use typically have residential zoning. Among the eight local municipalities, only the Village of Roslyn has an open space-recreation zoning classification at the present time.

Village of Sands Point

Large-lot zoning is in place throughout the Village of Sands Point. The Village Club and Sands Point Preserve are zoned for minimum five-acre lots, while all areas of existing private land are zoned for minimum two-acre lots.

Port Washington, Town of North Hempstead

This section of the study area has small-lot residential zoning (minimum 8,500 square feet) at Beacon Hill, while the Hempstead Harbor County Park property and the shoreline frontage stretching southward to the Flower Hill Village line is zoned for minimum half-acre lots. The Harbor Links (former Morewood) property is within a Planned Unit Development (PUD) district, which allows a variety of uses, including senior residential community, commercial recreation, nature preserve, neighborhood commercial, and golf and related recreation.

In 2003, the Town of North Hempstead adopted a new Planned Waterfront Residential Community (PWRC) overlay district. This district was designed largely to address issues in the Beacon Hill Colony, particularly with respect to sanitary waste disposal. Specifically, the PWRC requires that:

> "No dwelling unit shall be constructed, altered, or expanded unless it is connected to a septic system or sanitary sewer with adequate capacity, as approved by the Department of Health and the Building Department";

"For alterations or new construction which increases the preexisting gross floor area of a Planned Waterfront Residential Community, an analysis of the capacity and utilization of the sewage disposal system shall be included with the application for alteration or new construction unless the development is connected to a municipal sewer system. Such analysis shall be prepared by a qualified licensed professional and shall include the number and type of fixtures and the effluent flow per fixture"; and

"No alteration shall be approved without adequate sewage disposal availability."

Village of Flower Hill

The small segment of shoreline in the Village of Flower Hill situated within the study area is zoned for minimum 7,500-square foot residential lots.

Village of Roslyn

The Village of Roslyn has the most complex pattern of zoning districts in the study area, which is consistent with the variegated pattern of existing land use in this area. Roslyn Pond Park is zoned for open space and recreation, the only such zoning district in the study area. The southern end of the park adjoins parcels that are zoned for small-lot single-family residential use. The northern end of the park adjoins the Village's commercial district, which extends across Old Northern Boulevard and northward on both Main Street and Broadway. An industrial district is present below the Roslyn Viaduct on the west side of the harbor. A mixed-use district occurs beneath the Viaduct on the east side of the harbor, which is separated from the harbor shoreline by the moderate-density residential district that applies to the Forest City Daly property.

Village of Roslyn Harbor

One-acre single-family residential zoning applies to the extreme southern end of the shorefront in the Village of Roslyn Harbor, while the majority of the shoreline lies within a two-acre district.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

The north side of Motts Cove, in the Town of North Hempstead portion of Glenwood Landing, contains small areas of residential and business zoning. The remainder of the North Hempstead shoreline in this community is industrially-zoned.

The Town of Oyster Bay completed a "Redevelopment and Revitalization Plan" for the portion of the Glenwood Landing waterfront under its jurisdiction. The final recommendations of that

plan were released in report dated October 2002. Based on these recommendations, in January 2004 the Oyster Bay Town Board adopted a series of zoning amendments, including a new waterfront zoning district that was applied to the area in the Town of Oyster Bay to the west of Shore Road (which previously was zoned for industrial use), and upzoning of the portion of the North Shore Country Club property within the Town from 10,000-square foot minimum residential lot size, to match the 20,000-square foot zoning in the adjoining area of the country club within the Village of Sea Cliff.

Village of Sea Cliff

The shoreline in the Village of Sea Cliff lies within three different residential districts: minimum 20,000-square foot lots on the portion of the North Shore Country Club in this community, and minimum 7,500-square foot and 13,000-square foot lots in the remaining area.

City of Glen Cove

The City of Glen Cove also has a fairly complex zoning pattern. The entire northern shorefront and western end of the southern shorefront in Glen Cove Creek are zoned Marine Waterfront. The eastern end of the creek's southern waterfront is zoned industrial. A narrow business district lies along the west side of Glen Cove Avenue. Small-lot residential zoning occurs on the south side of Morris Avenue, with a narrow industrial district lying between this residential zone and Shore Road. The remainder of the City's waterfront in the study area is zoned in various residential districts, covering a range of minimum lot sizes, with the lowest density limit covering the Welwyn Preserve and Dosoris Island, and the highest density allowance pertaining to East Island and the shorefront immediately north of Morgan Park.

3.3.3 Upland Ecological Resources

3.3.3.1 Upland Habitats

The upland portions of the study area have been substantially modified by development and other human activities. In certain areas, including locations of the most intense industrial and commercial uses, there is very little vegetation, and what is present has been highly modified. Native vegetative communities have been retained at the large estate properties that remain intact in the study area, including the Sands Point Preserve, Cedarmere (the William Cullen Bryant Preserve, in Roslyn Harbor), Garvies Point Preserve and the Welwyn Preserve (Glen Cove). Some of the more salient ecological features of each of these four sites is highlighted below.

The upland portion of the 204-acre Welwyn Preserve, outside freshwater wetland areas, consists largely of a tulip-beech climax woodland, with some eastern hemlock and black birch. Red maple swamps are extensive on the site, with a spicebush-rose understory (Sama, 1977). Other native species that are present include yellow birch, white pine, white oak, and sassafras. Other species on the site that probably have been planted include river birch and Austrian black pine. There also is an extensive shore zone fronting on Long Island Sound, where shrub species such as beach plum and wrinkled rose can be found.

The 62 acres in Garvies Point Preserve range through a variety of upland habitats, including forests, shrub thickets, meadows and a shorefront on the harbor. The site includes vegetative communities in various stages of succession. Woodlands contain 48 species of trees, as well as numerous shrubs, vines, and wild flowers.

The 216-acre Sands Point Preserve also features a variety of natural habitats, including woodland, field, freshwater pond, and a mile-long stretch of beach, which provide habitat for a diverse array of wildlife. The 200-acre Cedarmere estate also has a broad range of upland habitat types, including native red cedar woodlands which inspired the name; although the flora was significantly modified by Bryant to include numerous exotic trees, as well as extensive flower and vegetable gardens, which transformed the estate into a horticultural showplace.

3.3.3.2 Freshwater Wetlands

Freshwater wetlands provide a multitude of benefits including: flood and storm water control, wildlife habitat, protection of subsurface drinking water supplies, recreational opportunities, pollution abatement, soil erosion control, education and scientific research, open space and aesthetic appreciation. NYSDEC evaluates each freshwater wetland system and assigns a class rank based on the wetland's ability to perform various functions and provide the benefits listed above. Freshwater wetlands are ranked from Class I through Class IV, with Class I having the highest rank.

All land use activities in freshwater wetlands are subject to regulation by NYSDEC under ECL Article 24. Prior to 1984, NYSDEC regulated only significant freshwater wetlands larger than 12.4 acres. With the passage of "Interim Permit" procedures in February 1984, NYSDEC assumed regulatory authority over smaller-sized wetlands of unusual local importance. Special procedures have been established for adding wetlands to the official NYSDEC map.

NYSDEC does not map freshwater wetlands into distinct subgroups based upon hydrographic features and vegetative cover types as is done for tidal wetlands. However, Article 24 of the ECL does list vegetative cover types as indicators of freshwater wetlands. In order for

NYSDEC to map an area as a freshwater wetland, the area must have hydraulic conditions and soil properties that support these species throughout the majority of the growing season.

NYSDEC-designated freshwater wetlands in the study area are illustrated in Map 3-5, and include:

- Upper portion of East Creek at Prospect Point in the Village of Sands Point - This area is part of the privately-owned Bird Sanctuary.

- Isolated, scattered areas on the Harbor Links (former Morewood) property - These wetland areas are vegetated primarily with *Phragmites*.

- Scudders Pond and adjacent areas - Scudders Pond is an approximately 1.8-acre brackish-to-freshwater impoundment, which is fed by several smaller spring-fed ponds and a freshwater wetland complex draining into Scudders Pond from the east. The wetland vegetation surrounding Scudders Pond is dominated by *Phragmites*, while the vegetation within other portions of the system is more diverse. This wetland system lies mostly on the North Shore Country Club property, and straddles the Glenwood Landing-Sea Cliff boundary on the east side of the harbor.

- Mill (or Pratt) Pond at the head of Glen Cove Creek - This small pond lies on public land, surrounded by Glen Cove Avenue, Charles Street, and Herb Hill Road, at the site of the earliest mills in Glen Cove. Sediment and pollutant loads carried in stormwater discharges had seriously degraded the quality of the pond. Using matching funds through the New York State Clean Water/Clean Air Bond Act, the City recently completed a restoration project to improve stormwater treatment capabilities, habitat quality, and aesthetic condition. This project included the construction of man-made wetland and sediment retention basin, dredging of the pond, removal of invasive plant species, planting of native vegetation, and installation of a perimeter walkway.

- Pratt Pond and stream, on the Welwyn Preserve - This freshwater wetland system occupies a large portion of the Preserve, extending southward from West Pond (a tidal embayment). Vegetative communities include red maple swamps and areas of skunk cabbage, but give way to *Phragmites*-dominated areas to the north.

The Roslyn Pond Complex, located in Roslyn Pond Park at the southern end of the study area, is a relatively large freshwater body that is not included on the NYSDEC regulatory map. This system, which includes three freshwater ponds (Roslyn Pond, Silver Pond, and a smaller unnamed pond) that are interconnected by northward-flowing channels and smaller ponds,

discharges to the head of Hempstead Harbor via the outflow from Roslyn Mill Pond. The Roslyn Pond Complex has been highly manipulated, with concrete-stabilized pond shores, structural channels, and turf grasses in the adjacent area. The pond system receives runoff from a large developed watershed area (969 acres) and supports a large population of resident waterfowl. These conditions result in elevated contaminant levels in the ponds and, consequently, contribute to degraded water quality in the lower harbor. The Town of North Hempstead, which owns the park, is undertaking a project to identify and implement measures (including upland drainage improvements, and in-park erosion control and stormwater treatment) to improve the quality of the water discharged from the pond system to the harbor.

3.3.4 Scenic Resources

The scenic quality of Hempstead Harbor is highly variable, ranging from vacant, deteriorated industrial sites in some locations, to many aesthetically pleasing natural areas scattered along the waterfront. Overall, the inherent beauty of the harbor gradually is being restored, as the most degraded areas are revitalized. The key vantage points for viewing the harbor coincide with the many parks and other public lands along its shores, which include, but are not necessarily limited to:

- Sands Point Nature Preserve
- Village Club of Sands Point
- Hempstead Harbor Beach County Park
- Bar Beach Park
- Hempstead Harbor Shoreline Trail
- Roslyn Grist Mill
- Cedarmere
- Powerhouse Park
- Harry Tappen Beach Park
- Shore Road Promenade
- Rum Point
- City of Glen Cove Waterfront Promenade
- 18 Trails Conservation Area
- Sea Cliff Park
- Sea Cliff Memorial Park
- Cliff Way Conservation Area
- Sea Cliff Village Beach
- Morgan Memorial Park
- Garvies Point Preserve
- Crescent Beach
- Welwyn Nature Preserve

- Pryibil Beach

For the most part, views of the harbor from the parkland and open space parcels listed above (and from various road ends) are positive. One of the most significant factors detracting from the aesthetic appeal of the harbor is the massive Keyspan power plant, which looms over Bar Beach, and also is a key element of the landscape visible from Hempstead Harbor Park and Tappen Beach, as well as from much of the harbor itself.

Because of the narrow width of Hempstead Harbor, particularly to the south of Bar Beach, but also as far north as the Glen Cove Creek area, the opposite shore is readily visible to waterfront viewers. Therefore, development and other activities in the harbor's waterfront area can have a significant effect on the viewshed for the waterfront community situated on the other side of the harbor.

The Glen Cove Creek area has its own aesthetic character. Although still impacted to a large degree by deteriorated properties, the ongoing revitalization effort is improving this condition by eliminating the most discordant visual features, and the creek is being redeveloped to provide the interesting setting associated with a working harbor.

Views of the surrounding uplands from the harbor also are generally pleasing, but are impacted by the same problems highlighted above.

3.3.5 Infrastructure

3.3.5.1 Shoreline Protection

As land along the harborfront has been developed, many naturally vegetated reaches of the shoreline have been replaced with man-made, protective structures. These structures are mostly in the form of bulkheads and retaining walls made of timber, steel, or concrete. Rock and concrete rubble revetments are also fairly common. While these devices serve to ensure a secure shoreline along the length of the structure, they can compromise the stability of the shoreline on either side of the wall, often accelerating the erosion rate at these areas.

Overall, of the 19.5 miles of shoreline within the Harbor Management Area, approximately 7.6 miles (38 percent) is "hardened", or outfitted with some man-made shoreline stabilization structure (refer to Map 3-6). Hardened shoreline is most prevalent in areas that support the most intensive uses, including: the segment of the western shore that contains the aggregate trans-shipment facilities; the Glenwood Landing waterfront; and both sides of Glen Cove Creek. Additional areas of almost continuous shoreline stabilization include: both sides of Roslyn Creek

in the lower end of the Harbor; the bluff face in the Village of Sea Cliff; and the Long Island Sound frontage of East Island, at the northern end of the City of Glen Cove. The lower harbor, south of Bar Beach, contains approximately one-fifth of the total length of hardened shoreline in the harbor. Glen Cove Creek contains approximately one-fourth of the harbor's hardened shoreline.

The remaining 11.9 miles or 62 percent of shoreline in Hempstead Harbor is "natural", meaning that it is not artificially hardened. This includes: most of the western shoreline of the harbor, except for the segments at the aggregate trans-shipment facilities and in Roslyn Creek; and scattered sections of the harbor's eastern shoreline, especially in waterfront parks, preserves, and beaches.

In addition to structures that have been placed along the shoreline to provide armoring against the erosive force of waves and currents, Hempstead Harbor contains a number of structures that are oriented generally perpendicular to the shoreline. These include:

- The Glen Cove Breakwater, located at Morgan Park on the north side of Glen Cove Creek, was constructed by the U.S. Army Corps of Engineers in the 1800s. This structure provides protection from waves entering the mouth of Hempstead Harbor as a result of northerly winds. The calm waters on the lee side of the breakwater create a protected harbor for vessels near the mouth of Glen Cove Creek.

- The shoreline of Hempstead Harbor, especially to the north of Bar Beach, contains numerous groins. These structures usually are composed of rock or concrete rubble, but can also be constructed of timber or other materials. Groins are installed perpendicular to the shoreline for the purpose of trapping sediment be carried parallel to the shoreline in the littoral drift.

A series of groins (termed a "groin field") typically is constructed along a stretch of shoreline targeted for protection, resulting in shoreline sediment being trapped in the individual groin "compartments". This can be effective in maintaining a wide beach along the section of shoreline within the groin field. However, shoreline erosion often occurs down-drift of the last groin. This situation is believed to be contributing to the erosion occurring at Rum Point, which is located immediately down-drift from a series of groins that stretch along most of the shoreline of the Village of Sea Cliff.

Besides the Sea Cliff shoreline, groins are most prevalent: in the Village of Sands Point, especially at the Sands Point Preserve and the Village Club; and in front of the individual residential lots in the City of Glen Cove between the breakwater and Red Spring Point (at the terminus of Soundside, or Southside, Lane).

3.3.5.2 Roadway System

The Hempstead Harbor area is served by an extensive roadway system. The main east-west thoroughfare in the study area is Northern Boulevard (State Route 25A), which crosses the southern end of the harbor via the Roslyn Viaduct. West Shore Road follows the harbor's shoreline to a point just south of the Village of Sands Point, where this roadway veers sharply westward to continue as Beacon Hill Road leading into the center of Port Washington. From there, Middle Neck Road/Port Washington Boulevard (State Route 101) provides the main access route northward into the Village of Sands Point. Route 101 continues southward from downtown Port Washington; south of Northern Boulevard this roadway becomes Searingtown Road, which has interchanges at both the Long Island Expressway (LIE) and Northern State Parkway (NSP). East Shore Road also continues southward, and becomes Main Street and then Roslyn Road, which intersects with the LIE service roads and has an interchange at NSP.

The north-south roadway connection is less direct on the eastern shore of the harbor. Broadway is a one-way southbound roadway that intersects with Main Street at the southern tip of Roslyn Pond Park. To the north of Route 25A, Broadway becomes Bryant Avenue. From that point, a traveler must turn onto Glenwood Road, Scudders Lane, and then Shore Road to continue northward. Shore Road extends along the waterfront into the Village of Sea Cliff, where it leads into Prospect Avenue. Two sharp S-turns at Cliff Way brings one from the bluff top on which Prospect Avenue is situated down to the shoreline of Glen Cove Creek. Continuing eastward on Shore Road and then turning northward on Glen Cove Avenue leads to downtown Glen Cove. Glen Cove Avenue connects southward to Glen Cove Road, which has interchanges at both the LIE and NSP. Access between the heart of Glen Cove and the LIE and NSP, to and from points further to the east, can be gained along Cedar Swamp Road (State Route 107), which trends in a southeast direction from the center of the City.

Depending on the jurisdiction of a given roadway in the study area, responsibility for maintenance, repair and improvements may lie with any of ten governmental entities: the State of New York, Nassau County, Towns of Oyster Bay or North Hempstead, City of Glen Cove, or one of the five incorporated villages. Northern Boulevard, including the Roslyn Viaduct, is under the jurisdiction of the New York State Department of Transportation (NYSDOT), as are the other primary arterial roadways in the region, including the LIE, NSP, and Routes 101 and 107. Nassau County has jurisdiction of West Shore Road and Shore Road. With the exception of a few private residential and institutional roads, the remaining local roads are maintained by the respective incorporated villages, the Towns of North Hempstead and Oyster Bay, and the City of Glen Cove. These streets comprise the majority of the roadway network in and adjacent to the study area.

Roadway jurisdiction covers the full range of activities related to roadway operation, including maintenance of the road surface and shoulder area, snow removal, street sweeping, drainage system maintenance (e.g., clean-out of catch basins, sumps and drainage lines), and major capital projects for roadway improvements. Street sweeping and drainage system clean-outs are particularly important to ensuring that stormwater drainage is adequately mitigated before being discharged to the harbor. However, because of tight budgets at all levels of government, these activities can be deferred until significant problems arise (e.g., roadway flooding caused by clogged drainage lines). Although there are some individual differences, stormwater maintenance practices are generally similar. Typically, there is no formal schedule for street sweeping or emptying stormwater drainage structures. Sweeping occurs as frequently as a daily or weekly basis where needed, and this can increase during winter months when there is an increase in the sanding of streets. The drainage structures are emptied on an as-needed basis. When there is a heavy rain or a storm prediction, the local municipalities try to address the problem by servicing the drainage catch basins to prevent potential flooding. There are also bi- or semi-annual maintenance inspections of the grates and drainage basins. For example, the City of Glen Cove undertakes a full maintenance check of the storm drainage structures once in the fall, before the winter weather begins and once in the spring to remove the excess materials from months of winter maintenance.

One major roadway construction project is planned within the study area. The Roslyn Viaduct is scheduled to undergo replacement, due to its advanced age (more than 50 years) and outdated design, and concerns about long-term structural integrity. NYSDOT, which has jurisdiction over this steel structure, has worked with local officials and residents to develop a consensus conceptual design for the project. The project is now in the detailed design phase, which will produce engineering drawings and specifications that will be used to proceed with construction. NYSDOT anticipates that construction will commence in 2004 or 2005, and will run approximately three years, and estimates that the total cost of the project will be in the $60 to $80 million range. The project plans call for four travel lanes to remain open on the Viaduct at all times during construction.

3.3.5.3 Potable Water

The boundaries of water districts in the study area are delineated in Map 3-7. The facilities and services these districts provide for their customers in the study area are summarized below.

Village of Sands Point

The Sands Point Water Department (SPWD) presently serves approximately 2,800 people through 1,490 connections. The District receives its water from four wells, with a fifth scheduled to be added in 2002. These wells are drilled to various depths, and tap the Upper

Glacial, Magothy and Port Washington aquifers. Two 500-gallon per minute wells are located on the Village Club property, two 650-gallon per minute wells are located on the property behind the Village Hall on Tibbits Lane, and the fifth well is located at the SPWD office on Governors Lane. The District utilizes three elevated storage tanks with a total combined capacity of 650,000 gallons. Construction of a new one million-gallon elevated storage tank is scheduled to begin, to replace an existing 100,000-gallon tank, in order to better handle the water demands of summer months. The SPWD treats its water with sodium hydroxide to lessen acidity and reduce corrosivity before it enters the distribution system. Sodium hypochlorite is also added to the water to maintain disinfection.

Port Washington, Town of North Hempstead

The Port Washington Water District (PWWD) has a total of thirteen wells located at nine stations, which tap various aquifers and range from 90 feet to 600 feet in depth. The system has a 22.25 million-gallon storage capacity with 1.25 million gallons in two elevated storage tanks and twenty-one million gallons in two concrete storage reservoirs. The PWWD is completely metered and serves roughly 32,000 residents. The facility uses an active cross contamination control program that is in compliance with the state sanitary code. In 2001, a total of 1,541,558,000 gallons were pumped from the ground.

PWWD water is treated in several ways. Sodium hypochlorite solution is added to provide disinfection, while sodium hydroxide is added to maintain proper pH and reduce corrosivity. Organic chemical removal facilities using granulated activated carbon adsorption are in use at some of the well stations, while the two wells at Christopher Morley Park are treated to remove volatile organic compounds using packed tower aeration (stripping towers).

The PWWD promotes water conservation measures. In 1996, the District adopted a Water Conservation Plan, containing regulations for air conditioners, swimming pools, irrigation, car washing, ane plumbing fixtures. Between 1999 and 2001, the District purchased and distributed roughly 700 water conservation kits, which included items such as low-volume aerators for sinks and shower heads, toilet tank bags, and color tablets for leak detection in toilet tanks.

Village of Flower Hill

The Village of Flower Hill receives it water supply from three different sources: approximately 30 percent of the residents are served by the Port Washington Water District, 30 percent by the Roslyn Water District, and 40 percent by the Manhasset/Lakeville Water District. The portion of the Village situated in the study area (i.e., along the shoreline, to the east of West Shore Road) is connected to the Roslyn Water District, which is discussed below.

Village of Roslyn

The Village of Roslyn receives its water from the Roslyn Water District (RWD). The District has 5,776 service connections that supply approximately 17,000 people. The District obtains its water from seven individual wells that are drilled into the Magothy aquifer and from one well field that contains eight wells connected to a common suction pump.

Of the seven individual wells, two are located in the Incorporated Village of Roslyn Estates and five are located in the Incorporated Village of East Hills (outside of the HMP study area). The eight common suction wells are located on a well field in the Incorporated Village of Roslyn. These are artesian wells, seven of which are in the Magothy aquifer and one in the Lloyd aquifer. All of these wells are connected to a single turbine pump, delivering the water straight into the distribution system at 1,100 gallons per minute. The distribution system consists of three storage tanks that vary in capacity from one million to three million gallons, with a total storage capacity of six million gallons.

The water is treated before it enters the distribution system. Sodium hydroxide is added for pH adjustment and corrosion control, and sodium hypochlorite is used for disinfection. In 2001, the District wells pumped a total of 1,366,205,000 gallons of water. Of this amount, the Glenwood Water District purchased 62,800,000 gallons and the Port Washington District purchased 11,000,000 gallons. Metered sales to consumers living within the District comprise a total of 1,275,923,000 gallons. There is an unaccounted for total of 90,282,000 gallons, which is water that is used for such purposes as fire fighting, flushing hydrants, service line breaks and main breaks (6.6 percent of the total water produced).

The RWD has instituted a water conservation program. There are regulations for lawn irrigation systems, requiring all systems to have time-clock controllers as well as a rain or soil moisture sensor. Lawns may be sprinkled only between the hours of 4 p.m. and 10 p.m., for a three-hour maximum. The District also has imposed a mandatory odd-even day watering restrictions, depending on the address of each property.

Village of Roslyn Harbor

The Village of Roslyn Harbor receives it water supply from four different sources: approximately 50 percent of the residents are served by the Roslyn Water District, 25 percent by the Glenwood Water District, 20 percent by the Jericho Water District, and 5 percent by the Sea Cliff Water District. The portion of the Village of Roslyn Harbor within the study area situated south of Bryant Avenue is connected to the Roslyn Water District, which is discussed above. The portion of the Village situated to the north of Bryant Avenue is connected to the Glenwood Water District, which is discussed below.

Glenwood Landing, Town of North Hempstead/Town of Oyster Bay

The Glenwood Water District (GWD) supplies water to the Town of North Hempstead portion of Glenwood Landing within the study area. The GWD purchases water from the Roslyn Water District through two six-inch metered interconnections. The GWD owns and maintains the system piping located within the District boundaries, delivering water to approximately 194 service connections. The GWD has submitted an application and is currently working for reinstatement of their waiver from mandatory disinfections, so that routine chlorination can eventually be discontinued.

The Town of Oyster Bay portion of Glenwood Landing in the study area is situated within the service area of the Sea Cliff Water Company, which is discussed below.

Village of Sea Cliff

The Sea Cliff Water District serves roughly 15,000 customers who reside in the Village of Sea Cliff, and parts of Old Brookville, Roslyn Harbor, Glen Head, Glenwood Landing and Glen Cove. The system is supplied by two wells, the Sea Cliff well and the Glen Head well. The Sea Cliff well obtains its water from the Lloyd aquifer, and supplied an average of 134,000 gallons per day in 2001. The Glen Head well obtains its water from the Magothy aquifer and supplied an average of 1.2 million gallons per day in 2001. About six percent of the total water was accounted for by such activities as fire fighting and system flushing. All of the water is treated with chlorine for disinfection, sodium hydroxide, and a phosphate compound to reduce corrosion prior to being pumped to the distribution system. The facility is continually undergoing capital improvements to ensure water quality. Work includes improvements to treatment, supply, mains, meters and services.

City of Glen Cove

The City of Glen Cove owns and operates its own public water supply and distribution system, using potable water derived from the Magothy aquifer. There are a total of five wells, two at the Duck Pond Road Well Site, and one each at the other well sites (Kelly Street, Seaman Road and Nancy Court/Roxbury). The Kelly Street well site is run on a seasonal basis, from April to November. These five wells service close to 28,000 residents and have a capacity of approximately nine million gallons per day. The system can be interconnected with the water distribution system of adjacent communities in the event of an emergency that would result in a significant water deficit. NYSDEC has imposed a water cap, providing values for maximum withdrawal from supply wells within the City. This cap is placed at 1.666 billion gallons per year, with an average of 1.582 billion gallons for five consecutive years.

The Water Department treats the water supply before it enters the distribution system. A small amount of chlorine is added for disinfection and sodium hydroxide is added to increase its pH and reduce corrosivity. Source water from the Kelly Street well is treated by air stripping to remove various volatile organic chemicals. Source water from the two Duck Pond wells are treated by granular activated carbon filters to remove various organic chemicals and pesticides. In 2001, the City installed granular activated carbon vessels at the Seaman Road Well Site (which included a protective steel pre-engineered structure) and conducted well rehabilitation.

3.3.5.4 Domestic Wastewater Disposal

Sanitary wastewater generated in much of the study area is handled in individual, subsurface sewage disposal systems (SSDSs). Municipal sewage collection, treatment and disposal service is provided in the southern portion of the Port Washington area, the Village of Roslyn, most of the City of Glen Cove, small areas at the northernmost end and northeast corner of the Village of Sea Cliff. The portion of the study area that is served by municipal sanitary sewers is delineated in Map 3-8.

On-Site Sewage Disposal

SSDSs are the sole means of sewage disposal in the portions of the study area lying within the Villages of Sands Point and Roslyn Harbor, and the unincorporated community of Glenwood Landing. The entire Village of Sea Cliff, except for the northernmost area along Glen Cove Creek, also is served by SSDSs. The area on the western shore of the harbor in the unincorporated area of Port Washington to the north of Hempstead Harbor Industrial Park also is unsewered (the shoreline area to the south, to the Roslyn Village line, lies within the Port Washington Sewage Collection and Disposal District).

For the most part, individual SSDSs are located on-site, although the sanitary wastewater generated in a limited number of locations is piped off-site for subsurface disposal at another location (e.g., the five cottages along the south side of Scudders Pond). The Beacon Hill Colony is served by a communal SSDS which recently was replaced, after studies showed that connection to municipal sewers would be prohibitively expensive. Additionally, off-site subsurface disposal has been discussed in connection with the redevelopment of the Harbor Fuel/Hin Fin parcel in the Town of North Hempstead portion of Glenwood Landing.

When properly designed, sited, and constructed, SSDSs can provide adequate treatment to reduce the concentration of some deleterious substances to acceptable levels. Treatment occurs primarily through the settling of solid materials in a septic tank, and the passage of the effluent from the septic tank through leaching structures into the underlying substrate. The most efficient

filtration occurs in sandy soils, although pure sands may not provide adequate treatment because the effluent can pass too rapidly through the substrate.

SSDSs sited in wet soils (as often occurs in proximity to the shoreline) or in soils containing clay layers (as is common in the terminal moraine that spans along the entire north shore of Long Island) generally provide less effective treatment than SSDSs installed in more suitable soils with greater depths to groundwater. Consequently, coastal areas, like the study area covered under this plan, tend to experience a relatively high rate of SSDS malfunction and, consequently, can be a disproportionately large source of contaminant loadings to shallow groundwater and adjacent surface waters.

SSDSs in long established communities can include some older systems that lack septic tanks, with wastewater from the building being piped directly into leaching pools (i.e., cesspools). Cesspools provide a lower level of treatment than standard septic systems, and tend to fail at a higher rate since solids are not removed prior to injection into the leaching structure.

The Beacon Hill Bungalow Colony is a 41-unit community on the west shore of the harbor, in the unincorporated area of Port Washington, just south of the Village of Sands Point. Sanitary waste generated in Beacon Hill is handled in a private communal, on-site system. Operational problems with this system prompted an upgrade which was completed in 1999, under the oversight of the Nassau County Department of Health.

Port Washington, Town of North Hempstead

The southerly portion of the harbor's western shore in the unincorporated area of Port Washington, including Hempstead Harbor Industrial Park and extending south to the Roslyn Village line, lies within the Port Washington Sewage Collection and Disposal District. This district originally was created in 1915 as a Special Improvement District for the purpose of providing sanitary sewer service to the developed areas of Port Washington. In 1992, a $32 million expansion and improvement program increased the capacity of the treatment plant from 3.2 to 4.0 million gallons of sewage per day and a sand filter was constructed as a form of tertiary treatment to provide a higher quality effluent. The District currently operates and maintains fifteen sewage pumping stations throughout the community, as well as approximately eighty miles of sewer lines, with an estimated connected population of over 30,000 residents.

Village of Roslyn

The Nassau County Department of Public Works maintains a sewage pump station in a brick building directly south of the Roslyn Viaduct, on the east side of Hempstead Harbor. This facility, which serves 99 percent of the properties in the Village of Roslyn, pumps into the

Nassau County sanitary sewer system, which eventually connects to the Cedar Creek Wastewater Treatment Plant in Wantagh, on the south shore of Long Island. Treated effluent from this plant is discharged to the Atlantic Ocean.

The existing pump station replaced the Village's prior sewage treatment facility on the same site. The Village treatment plant originally was constructed in the mid to late 1930s, and had its effluent outfall in lower Hempstead Harbor. Operational problems plagued this plant, which contributed significantly to the impairment of water quality conditions in Hempstead Harbor, and prompted the institution of a moratorium on new connections to the system.

Between 1985 and 1987, the Village wastewater treatment plant was shut down and the Village collection system was diverted into the newly-constructed pump station. The Village's current sanitary wastewater system has a maximum design capacity of one million gpd, but operates at an average flow of 490,000 gpd. There have been no reported flow capacity problems in the eight-mile stretch of piping that comprises the system. The moratorium was lifted when the pump station became operational, and new connections are now allowed. Other major upgrades to the Village sewage system include lining of the primary main that leads to the pump station in the 1990s, and an on-going video inspection and capital improvements/maintenance program more recently. Upgrades and repairs are performed as needed.

City of Glen Cove

The City of Glen Cove operates a sewage treatment plant on a property located on the south side of Glen Cove Creek, at the western end of Morris Avenue. The original plant at this location was completed in the 1930s. Construction of a completely new sewage treatment facility commenced in 1979 on a parcel adjacent to that earlier plant (which subsequently was demolished). A cogeneration incinerator constructed in conjunction with the second sewage treatment plant was demolished in the mid-1990s.

The Glen Cove Sewage Treatment Plant has a current design capacity of eight million gallons per day and operates at approximately 50 percent of that capacity. The plant receives sanitary wastes generated in most of the City, including essentially all of the non-residential uses and approximately 95 percent of the residences (roughly 8,000 homes). In addition, the Treatment Plant also serves a small area along The Boulevard at the northern end of the Village of Sea Cliff, including the Village Beach and approximately nine neighboring homes, as well as approximately four commercial properties in the northeast corner of the Village of Sea Cliff.

The system's collection pipe is roughly 400,000 linear feet in total length, with the outfall pipe located roughly in the middle of Glen Cove Creek, near the plant. The plant is designed to accomplish secondary sewage treatment with additional oxidation of ammonia to nitrate after

accelerated bacterial decomposition of organic wastes. The aeration and filtration process is also accompanied by the dewatering of sludge.

Each year, the City has an on-going program that is continually looking to make improvements at the facility. Projects include odor control improvements, upgrades to aged equipment, and work on the primary and secondary feed pumps. Recently, the facility completed a Biological Nutrient Reduction (BNR) retrofit, which increases the removal of nitrogen from the effluent before it is discharged to the creek. This project has upgraded the plant to tertiary treatment, but reduces the daily capacity of the plant to 5.5 million gallons per day. An ultraviolet disinfection system also is planned, which will allow elimination of chlorine usage at the facility.

There have been no incidents of system failures in recent years that have caused the bypass of inadequately treated wastes from the sewage treatment plant into the creek. In 1998, the facility had a consent agreement with the NYSDEC, but that agreement is in the process of being lifted as the upgraded plant is issued a new SPDES permit.

The only areas in the City of Glen Cove that are not served by the City's sanitary sewerage system are the area north of Lattingtown Road, and the Red Spring district and several small areas west of Crescent Beach Road in the northwest quadrant of the Village (see Map 3-8). Sewage disposal occurs via on-site systems in these areas. The City offers a maximum of one septic system pumpout per year for each home, a service which is provided without cost to the homeowner by a contractor retained by the City for this purpose.

3.3.5.5 Vessel Waste Disposal

Shore-based vessel waste disposal facilities are provided at the following locations:

- A Town of North Hempstead pump-out trailer is stationed during the boating season at the Bar Beach boat ramp, on the west side of the harbor just south of the Bar Beach peninsula. Boaters need to call ahead to have the trailer moved to the dock for usage.

- The Town of Oyster Bay offers a free-of-charge pump-out facility at Harry Tappen Marina, on the east side of the harbor just north of the Bar Beach peninsula.

- Brewer's Yacht Yard and Sea Cliff Yacht Club provide privately-operated, shore-based vessel waste pumpout facilities in the Glen Cove Creek area.

- A pumpout facility was installed at Glen Cove Yacht Club in 1997, and is available to the public using tokens issued by the City Recreation Department.

In addition to the facilities enumerated above, the Towns of Oyster Bay and North Hempstead both operate vessel waste pumpout boats.

- In 1999, The Town of Oyster Bay purchased a vessel waste pump-out boat, using partial funding secured through a grant under the Clean Vessel Assistance Program. Since its acquisition, operation of the pump-out boat was alternated between the Oyster Bay/Cold Spring Harbor Complex and Hempstead Harbor. However, the demand for this facility was sufficient to justify a second pump-out boat, which the Town recently acquired. One boat is stationed at the Tobay Marina on the south shore, and one boat is stationed at Roosevelt Park in Oyster Bay Harbor. The boat docked at Roosevelt Marina also services the Hempstead Harbor area. The crews work ten-hour shifts, for four days at a time. The boats monitor marine channel 9, and make announcements to boaters regarding when they are in the area and available for pump out services. The Town reports that resident boaters seem to be quite pleased with the services that are available, and the pumpout boats are kept very busy, particularly on weekends when recreational activities are at their peak.

- The Town of North Hempstead's pump-out boat, *Marine 9*, is available to service vessels five days a week from early June through the first week in September between 8:30 a.m. through 1:30 p.m., Wednesday through Sunday (hours may be adjusted based on need). The pump-out boat is available on weekends from September 9 through November 4. *Marine 9* accepts requests for service on marine channel 9 or by telephone to the Town Dock in Manhasset Bay).

3.3.6 Floodplain

The mean tidal range in Hempstead Harbor is approximately 7.4 feet and the normal velocity of flood and ebb current is generally weak. However, water elevations in the harbor can be drastically altered by storms, both tropical hurricanes and the extra-tropical cyclones locally known as "northeasters." The strong winds and low barometric pressures of such storms increase water height in Long Island Sound and cause flooding in the low-lying shore areas. The north shore of Long Island is either threatened by or experiences at least one storm each year, on average. Unusually severe storms are likely to occur about once in 30 years. The highest recorded water elevation in Hempstead Harbor was approximately 16 feet above mean low water (approximately 12 feet above mean sea level) during the great hurricane of September 21, 1938.

Portions of study area have been designated by the Federal Emergency Management Agency (FEMA) as being susceptible to potential flood damage resulting from the movement of adjacent

coastal waters onto the land surface during severe storm events. FEMA has prepared Flood Insurance Rate Maps (FIRMs) to delineate such flood-prone areas, and has classified flood zones into several general categories, based on the degree of susceptibility to potential flood damage. These flood zones define the limit of 100-year and 500-year flooding (where the 100-year flood has a probability of occurring once in every 100 years, or a one percent probability in any given year), as summarized below:

- **Zone VE**: encompasses the land area that would be inundated by water to a specified depth (termed the "base flood elevation") and would be subject to breaking waves of three feet or greater in height during the 100-year storm.

- **Zone AE**: encompasses the land area that would be inundated by still-water flooding to a specified depth above mean sea level (i.e., the base flood elevation, BFE) during the 100-year storm, but would not be subject to significant wave action.

- **Zone A**: encompasses the land area that would be inundated by still-water flooding during the 100-year storm, but for which BFE has not been determined.

- **Zone X-500**: encompasses the land area between the limits of 100-year flood and 500-year flood, and certain areas subject to 100-year flooding with average depth less than one foot, or where the contributing drainage area is less than one square mile.

- **Zone X**: encompasses the land area that is subject to minimal flooding only, situated outside the 500-year flood plain.

The flood plain within the study area is illustrated in Map 3-9, and summarized as follows:

- Zone VE is absent along the easterly shoreline between Red Spring Point (at the terminus of Soundside, or Southside, Lane) and the south end of Motts Cove, but otherwise occurs as a band of variable width along the shoreline throughout the study area. Zone VE extends further inland in areas where topographic relief is more gradual along the shoreline. The BFE in Zone VE varies from 19 feet along the northernmost reach of the Sands Point shoreline, to 15 feet along the west shore south of Bar Beach.

- Zone AE typically is found in the low-lying areas landward of Zone VE, and can extend considerable distances inland at some locations, including:

- along East Creek in Sands Point; at the termini of Elm Court, Shorewood Drive, and Old House Lane, in Sands Point;
- at Hempstead Harbor Park and Bar Beach;
- along both sides of the harbor to the south of the Roslyn Viaduct;
- onto the Forest City Daly property, on the easterly side of the harbor, just north of the Viaduct;
- across Bryant Avenue at the William Cullen Bryant Preserve;
- at Motts Cove and up along its headwaters;
- across shore Road at the Glenwood Road intersection;
- across Shore Road in the area between Tappen Marina and Laurel Avenue;
- into the Scudders Pond system, including the western end of Littleworth Lane;
- along Glen Cove Creek (extending across both Garvies Point Road to the north and Shore Road to the south, in some locations); and
- along the shores of West Pond and Dosoris Pond.

BFE in Zone AE ranges between 14 and 15 feet above mean sea level throughout the study area.

Zone A includes the area within and immediately surrounding Roslyn Pond, and an intermittent stream channel originating on the William Cullen Bryant Preserve, following Harbor Lane westward, crossing Bryant Avenue, and discharging to the lower harbor, in the central portion of Roslyn Harbor.

- Zone X-500 occurs at scattered locations upland of Zone AE.

- As shown in Map 3-9, most of the study lies in Zone X, outside the limits of the 500-year flood plain.

3.3.7 Upland Soils

Soils exhibit a variety of specific characteristics based on the physical, chemical and biological properties of the soil and local climatic conditions. These factors in turn control the soil's properties, including percolation rate, porosity, drainage and runoff capacity, erosion and sedimentation potential, propensity toward frost heave, affinity toward compaction, weight-bearing capacity, susceptibility toward shrinking and swelling, plasticity, particle cohesion, and ability to support flora and fauna. A soil's properties all play a role in its suitability for different purposes, including for use as construction material, or for various land development activities (e.g., agriculture, wildlife habitat, construction of buildings, subsurface sanitary systems, drainage

control infrastructure, and public utilities, landfills, and roads, etc.). Many of the soils in the study area, especially those in low-lying areas, have limitations for land development related to slope, wetness, presence of clay layers, and other factors.

According to the *Soil Survey of Nassau County, New York* (1987), the soil-types present in the study area collectively belong to the Riverhead-Plymouth and Udipsamments-Beaches-Urban land soil associations. Soil associations typically include at least two specific soil types that have similar soil characteristics, topography and drainage.

The majority of the harbor's waterfront area contains Riverhead-Plymouth soils. These are dominantly moderately steep or steep, well drained or excessively drained, and moderately coarse-textured or coarse-textured soils. Udipsamments-Beaches-Urban land comprises a large portion of the western waterfront, coinciding approximately with the Town of North Hempstead's Port Washington frontage on the harbor, between the Villages of Sands Point and Flower Hill. These are dominantly nearly level or gently sloping, excessively drained to moderately well-drained, coarse-textured soils.

3.3.8 Groundwater

Long Island's groundwater reservoirs are federally-designated sole-source aquifers, which indicates that they are the sole source of drinking water for the region. Because of inputs of contaminants in water recharged to the aquifer system, the uppermost unit, the Upper Glacial Aquifer, generally is not usable directly for drinking water, but can be combined with cleaner sources. For most communities, the underlying layers of Cretaceous-age strata of the Magothy and Lloyd aquifers (and locally the Port Washington aquifer on the western side of the harbor), are the primary sources of a dependable water supply.

The entire study area is situated within Hydrogeologic Zone VIII, as delineated in the Long Island 208 Study. This area is defined as Long Island's north shore shallow flow system, in which the groundwater primarily moves laterally. There may even be some degree of upward flow as the groundwater discharges to the surface water bodies. Evidence of this shallow lateral flow toward the harbor can be seen as springs and groundwater seeps that occur throughout the study area (e.g., in Roslyn Pond Park, in the area around Scudders Pond, and at the bluff face in Sea Cliff). A significant proportion of the precipitation falling into Zone VIII runs off via overland flow into the harbor.

3.4 INVENTORY OF EXISTING WATER-SIDE CONDITIONS

3.4.1 Navigation

3.4.1.1 Physical Characteristic of the Harbor

Hempstead Harbor covers a total water area of approximately 7.4 square miles at mean high water, extending out to the study area boundary between Prospect Point and Matinecock Point. This is an estuarine embayment, in which saline waters from Long Island Sound are being mixed with freshwater discharged from the adjacent upland via stormwater flow and groundwater underflow. The tidal range in Hempstead Harbor is approximately 7.4 feet, on average, increasing to 8.7 feet during spring tide conditions.

Within the Village of Roslyn, the harbor comprises a shallow creek (Roslyn Creek) which is only about 100 to 200 feet across. Proceeding north of the Roslyn Viaduct, the harbor expands to approximately 1,000 feet in width; and beyond the Town of North Hempstead transfer station, the harbor is about 2,000 feet wide.

The harbor constricts significantly at Bar Beach, such that the width here is only about 600 feet, or less than one-third of the shore-to-shore distance in the main body of the lower harbor. Because of this unusual morphology, tidal currents are generally stronger along the Bar Beach area than they are elsewhere in the harbor, creating a naturally deep channel along the harbor's eastern shore at Glenwood Landing.

North of Bar Beach, Hempstead Harbor widens gradually to a line between Mott Point on the western shore and Red Spring Point on the eastern shore; further to the north, the harbor mouth widens more abruptly to connect to the open waters of Long Island Sound. Within its outer reach, water depths along the central axis of harbor are sufficient to accommodate all vessels that normally navigate in this area, ranging from 12 feet just north of Bar Beach and off the Sea Cliff shoreline, to about 30 feet in the harbor mouth.

As in all coastal water bodies, the bottom contours in Hempstead Harbor are controlled by the forces of erosion, transport, and deposition. In the historical past, the lower harbor was navigable down to the Roslyn waterfront, a condition that was instrumental in the original development of this community (see Section 3.2). However, over time this area has undergone significant shoaling, largely due to the delivery of substantial sediment loads from upland sources, but also because of the net up-harbor bottom transport direction that is typical of estuarine embayments like Hempstead Harbor. As a result, most of the lower harbor either is extremely shallow or is exposed as tidal flats, and is unnavigable during low tide. However, navigability improves as the seven-foot tide flows in.

3.4.1.2 Navigational Features

Within Hempstead Harbor, the federal government has designated two navigation channels that were to be maintained by dredging as necessary. An approximately one-mile long channel was established in Glen Cove Creek, extending westward to naturally deep waters in Mosquito Cove. The upper reach of this channel (extending east from near the southerly terminus of Dickson Lane) is 50 feet in width, while the remainder of the channel is 100 feet in width. The authorized channel depth is eight feet below mean low water.

A federally-designated channel is present along the entire north-south length of the lower harbor. This channel was originally authorized in 1910, but the authorization for maintenance dredging was allowed to expire in 1960 due to the lack of water-dependent activity in the portion of the harbor to the south of Bar Beach. This channel has a total length of 2.3 miles, starting approximately 2,000 feet north of the Bar Beach peninsula and extending to the terminal bulkhead at the Roslyn Grist Mill. The authorized width is 50 feet over most of this length, narrowing to 70 feet within Roslyn Creek. The authorized channel depth is 13 feet north of the Roslyn Viaduct, and six feet to the south of the Viaduct.

The Glen Cove breakwater extends from the shoreline in Morgan Park. This U.S. Army Corps of Engineers project was originally adopted in 1888, with the length set at 2,000 feet, but was reduced to the 1,564 feet of structure that was actually completed.

A series of markers delineate the navigation areas within Hempstead Harbor. The locations of these aids to navigation, as based on the National Ocean Survey (NOS) nautical chart for Hempstead Harbor (February 2002), are illustrated on Map 3-6. These markers include a permanent light at the end of the Glen Cove breakwater and a light on a fixed structure just north of Bar Beach, as well as various types of buoys along the margins of the channel in the upper harbor, at the perimeter of the mooring fields to the north and south of the mouth of Glen Cove Creek, and on the sides of the approach to Glen Cove Creek. The municipal harbor patrol agencies (i.e., the two Towns and the City of Glen Cove) have indicated that responsibility for the maintenance of the primary aids to navigation in the waters of the study area lies with the U.S. Coast Guard. The Town of Oyster Bay maintains the buoys that mark the approach channel to Tappen Marina. Anecdotal reports from local mariners indicate a number of problems; in particular, some of the navigational markers that previously were present in the harbor reportedly no longer are in place.

It is noted that channel in lower Hempstead Harbor historically had been delineated with buoys, as shown in earlier NOS nautical charts. More recent charts depict no navigational markers in the lower harbor; and, in fact, the significant shoaling that has occurred in this area is clearly evident, with continuous tidal flats and no discernable channel shown to the south of the Harbor Links (former Morewood) property and substantially shallower water depths throughout the entire area south of Bar Beach. In contrast, the 1981 NOS nautical chart shows a well-defined

channel as far south as the Roslyn Viaduct, as well as three separate spur channels connecting to the westerly shorefront.

3.4.1.3 Obstructions to Navigation

As discussed in Section 3.4.1.1, the lower harbor, south of Bar Beach, becomes essentially unnavigable during low tide; except for a residual tidal channel through the center, this area comprises expansive tidal flats and shallows that extend from both shores.

Rocky bottom creates hazardous conditions for navigation in the near-shore area of outer Hempstead Harbor, especially along the shoreline of the Village of Sands Point on the western side and the City of Glen Cove and Village of Sea Cliff on the eastern side. Other, man-made conditions that pose a navigational hazard in the lower harbor include apparently abandoned, derelict barges and personal watercraft operating illegally in this area.

3.4.1.4 Dredging

Dredging is undertaken to create or restore depths in vessel use areas. Prior to the 1970s, much of the dredging work conducted on Long Island was to create new navigation channels in order to provide or enhance access to maritime facilities along the shore. At that time, the dredged material often was disposed atop tidal marshes, taking advantage both of the convenient location of such sites and the production of additional areas of developable land on the waterfront. Starting in the 1970s, when New York State began implementing new environmental protection laws, most dredging projects in the region have been undertaken to maintain existing channels, and the dredged material has been disposed in a more environmentally friendly manner.

Dredging of federally-authorized channels is under the jurisdiction of the U.S. Army Corps of Engineers (USACE). Glen Cove Creek channel was approved in 1999 for maintenance dredging of approximately 40,000 cubic yards of sediment, to restore the eight-foot authorized depth along its entire one-mile length. This project, started the spring of 2001, is seen as being a crucial component of the overall revitalization plan for the creek. This is the first time the inner channel has been dredged since the 1930s. The outer channel has been dredged several times over the years, most recently in the mid-1990s. However, the project was halted by the USACE about mid-way through, when testing revealed that the dredged material contained elevated levels of radioactivity. Subsequent analysis revealed that this condition is due to the presence of residual nuggets of tungsten slag left behind from the operations of the Li Tungsten facility. The radioactive material must be removed for special handling and disposal before the matrix of dredged material can be disposed.

As discussed in Section 3.4.1.2, a federally-mapped channel is present in lower Hempstead Harbor. After it was authorized in 1910, this channel was maintained by dredging undertaken by the USACE, most recently in 1936. Thereafter, the USACE indicated that no further dredging would occur until deteriorated bulkheads along the shoreline of the lower harbor were repaired by local interests, since it was feared that these bulkheads would fail if bottom sediments in the harbor were disturbed by any additional dredging. This, combined with a decline in the use of the lower harbor for waterborne commerce, resulted in the authorization for further dredging being allowed to expire in 1960. Although the channel currently is not active and has not undergone maintenance dredging in more than 65 years, this federal project does not appear to have been officially de-authorized (which requires an act of Congress), according to information provided by the USACE.

Section 3.4.1.3 of this HMP report describes the continuing siltation that is occurring in the lower harbor, which has resulted in this area becoming essentially unnavigable during low tide. Recent interest has been expressed by certain parties, particularly in the Roslyn area, to pursue dredging in order to re-establish navigability, and possibly to augment tidal flushing in an effort to improve water quality, in lower Hempstead Harbor. However, because water-dependent uses currently are absent to the south of Glenwood Landing, one of the primary justifications for dredging the head of the harbor does not apply. Furthermore, the prospects for any maintenance dredging in the lower harbor would be confronted by substantial regulatory hurdles, which typically are imposed on this type of project by natural resource managers in the various agencies from which approvals would be needed, especially NYSDEC. Extremely high monetary costs also would be associated with such a project, especially considering the difficulty that is typically involved in disposing the type of fine-grained sediments that accumulate in inner harbors. Consequently, under current circumstances, re-establishment of the navigational channel via dredging in lower Hempstead Harbor does not appear to be feasible.

Private marina basins and similar facilities also typically require periodic maintenance dredging, which is the responsibility of the respective owners or operators. USACE records list numerous private dredging projects that have been conducted over the years to maintain various facilities, primarily in Glen Cove Creek. The Town of Oyster Bay periodically has undertaken dredging to maintain adequate depths in the Tappen Marina basin.

The Town of North Hempstead is undertaking an investigation to identify a program of improvements to mitigate water quality impacts to the pond system in Roslyn Pond Park and the receiving waters of lower Hempstead Harbor. One of the alternatives that will be considered as part of this study is the dredging of accumulated sediments from the pond bottoms. This would increase the storage capacity of the ponds, which would augment their ability to remove contaminants prior to discharging to the head of the harbor via Roslyn Creek.

3.4.2 In-Water Uses

Hempstead Harbor presently supports, and historically has accommodated, a wide variety of in-water uses. The current uses of the harbor range from relatively passive activities such as swimming and non-motorized vessel operations (e.g., canoe, kayaks, and small sailboats), to fairly intensive activities associated with deliveries to industrial facilities (e.g., petroleum and aggregate barges), with a vibrant recreational boating community. Fishing also is popular throughout the harbor.

The overall issue of water uses within the harbor pertains to real or perceived "competition" among the various uses that occur within these waters. In some cases, such competition is manifested as two or more uses vying for the same physical space, as when the operation of small boats is made difficult (or even unsafe) at times and locations where large vessels are in use. The distinction between two competing uses also sometimes can be described in terms of conflicts in water quality requirements. Some uses (e.g., shellfish harvesting, finfishing, swimming, and wildlife habitat) require a high level of water quality, while other uses (e.g., power vessel operation and land development) have the potential to degrade water quality.

Use conflicts can also arise when an in-water activity directly diminishes the ability of the harbor complex to serve other important functions. This can apply to the direct loss or impairment of ecological resources (especially wildlife habitat and wetlands), as can result from inadequately regulated boating or poorly designed land development or infrastructure improvement projects. The goals of this HMP reflect an effort to balance competing uses of the harbor complex for the mutual benefit of all.

Map 3-6 illustrates existing water uses in the harbor, which are described below.

3.4.2.1 Commercial Vessel Uses

As noted previously, Glen Cove Creek is one of ten maritime centers designated by NYSDOS in the Long Island Sound region of New York State, as based on the presence at that location of a concentrated number of water-dependent uses, including some commercial facilities. NYSDOS also recognized that important water-dependent commercial facilities are present in other portions of the harbor. This reliance on the water to support commercial activities is a key aspect of the historical heritage of the Hempstead Harbor area, contributing significantly and directly to the development of several of the harbor's communities, including Roslyn, Glenwood Landing, and Glen Cove.

Commercial vessel uses of Hempstead Harbor are still important to this day. However, whereas the lower harbor once supported a significant maritime trade centered at Roslyn, progressive

shoaling of the harbor bottom south of Bar Beach has made water-borne commerce impractical in this area. Consequently, commercial vessel uses currently occur only in the outer harbor, as supported by a naturally deep channel in the main body of the harbor and a federal navigation channel in Glen Cove Creek which is maintained by dredging.

Besides the navigational routes followed through the center of the harbor and into Glen Cove Creek, commercial vessels require passage to the shoreline at several locations, especially in Port Washington and Glenwood Landing. In the former location, incoming aggregate laden barges arrive at shoreside facilities to offload their cargo. Once unloaded, these barges are transferred to an informally designated special mooring area located in the central portion of the harbor to await transport to bulk aggregate suppliers (see Map 3-6). Problems with these moorings has resulted in two recent incidents where barges have broken free, causing significant damage to the Bar Beach fishing pier and an in-water navigational aid. The damage to the pier has since been repaired and the facility was restored to full use.

The Glenwood Landing waterfront is used for commercial vessel operations associated with two adjoining facilities, including the Exxon-Mobil terminal and the Gladsky marine salvage facility. The Keyspan (formerly Long Island Lighting Company, LILCO) power plant, fronting on the harbor directly to the east of Bar Beach, previously was fired by fuel oil which was delivered to the site via tanker or barge. However, water-borne shipments of petroleum were terminated when the facility was converted to gas-only operation in the 1980s.

The Exxon-Mobil terminal receives tanker shipments of petroleum products, including fuel oil and gasoline, at its docking structure located to the north of the Keyspan power plant. In general, fuel shipments have to be timed to coincide with high tide, when the water level is sufficiently deep to accommodate the draft of a tanker ship containing a large volume of fuel. This area has not required dredging in over 20 years and shipments have been successfully conveyed without any incidents of grounding. During off-loading of fuel oil, floating booms are deployed on the water surface around the vessel in order to prevent accidental spills from dispersing. However, the facility operator does not utilize booms when off-loading gasoline, since containment of spilled gasoline increases the danger of combustion and because gasoline rapidly dissipates into the air. Exxon-Mobil's fuel tankers are reported to originate from New York Harbor and generally are 350 feet long, with a maximum storage capacity of 42,000 barrels (a barrel is equal to 42 gallons.).

The Gladsky property in Glenwood Landing includes shoreside dockage for vessels used in the marine salvage operation, including various barges and tugs which travel to work locations throughout the New York region. Some of the materials recovered in these salvage operations are delivered to the upland portion of the site for repair or processing.

3.4.2.2 Recreational Vessel Uses

Hempstead Harbor is a popular location for recreational vessels. The harbor's narrow shape and north-south orientation provides effective protection except during strong northerly winds. The breakwater at Morgan Park provides additional sheltering in the mouth of Glen Cove Creek even against waves generated when the wind is from the north

By far, the highest concentration of recreational boating facilities in Hempstead Harbor occurs along the south side of Glen Cove Creek, where several private marinas are located. The mouth of Glen Cove Creek contains two large mooring areas, situated in Mosquito Cove on the lee side of the breakwater. These mooring areas, which flank the north and south sides of the channel leading into the creek, are occupied on a seasonal basis, primarily by the members of a number of nearby yacht clubs, but also include individual moorings that are accessed via dinghy from the shoreline (e.g., dinghy racks are present at the terminus of Garvies Point Road). The harbor's only other major docking/mooring facility for recreational vessels is the Town of Oyster Bay's Tappen Beach Marina, which is located on the east side of the harbor on the Glenwood Landing waterfront. Additionally, a small mooring field is located offshore from the Beacon Hill Colony, which is used by residents of that community. In all, during a typical recent boating season, the harbor has accommodated a combined total of approximately 1,300 recreational vessels in moorings and dockage, about 80 percent of which are accounted for by public and private marina slips.

Boat ramps provide another means of vessel access to Hempstead Harbor, which are used by boaters who do not avail themselves of the aforementioned docking and mooring facilities. Public ramps are provided by the two Towns, on both sides of the harbor, at Bar Beach and Tappen Beach. A number of additional boat ramps are present along the harbor's shoreline, including public ramps at Shore Road (at the terminus of Laurel Avenue), Sea Cliff Village Beach, and the terminus of Garvies Point Road; and a private ramp at the Beacon Hill Colony.

3.4.2.3 Other In-Water Uses

Swimming is an important use in upper Hempstead Harbor. Public bathing beaches occur at Bar Beach (Town of North Hempstead) and Hempstead Harbor Beach (Nassau County) on the western shore; and Tappen Beach (Town of Oyster Bay), Sea Cliff Village Beach, Morgan (Park) Beach, Crescent Beach and Pryibil Beach (City of Glen Cove) on the eastern shore. Glen Cove also has several community association beaches, including East Island Beach Association, Red Spring Colony Beach Association, North Country Colony Beach Association, and Shorecrest Beach Association.

The public bathing beaches throughout Nassau County are monitored by the Nassau County Department of Health (NCDH) to ensure that water quality conditions conform to minimal standards for public health. The beaches in Hempstead Harbor historically had suffered from repeated closures related to poor water quality through the 1980s and into the early 1990s, especially at those facilities situated furthest from the mouth of the harbor. However, overall water quality conditions dramatically improved starting in the mid-1990s, with no closures occurring between 1994 and 1999, a minimal number of administrative closures in 2000 and 2001 due to heavy rainfalls, and no closures again in 2002 or 2003. The administrative closures are imposed by the NCDH as a precautionary measure when there is more than one-half inch of rainfall during any given rain event; this practice pertains to Sea Cliff Village Beach, Tappen Beach, Bar Beach, and Hempstead Harbor Beach.

A federal initiative is under way to change the beach closure standard from the current one based on the measurement of coliform bacteria as the indicator organism, to one based on enterococcus bacteria. States are being offered federal incentive monies to undertake this program amendment, which it is believed would provide a more accurate gauge of the potential presence of pathogens since enterococcus is more closely linked to human waste. Preliminary investigations suggest that this change, if implemented, would likely result in an increased number of beach closures because of the higher degree of sensitivity of the proposed new standard; and a suitable educational effort will be needed to ensure that the public understands that these circumstances would not be indicative of deteriorating water quality.

Recreational fishing occurs at many locations throughout Hempstead Harbor. Some of the more popular shore-based fishing sites include: Bar Beach fishing pier, drop-line fishing pier at Hempstead Harbor Beach Park, Powerhouse Park, Tappen Beach fishing pier, Sea Cliff Park, Rum Point, Morgan Park fishing pier, the Glen Cove breakwater, Pryibil Beach Pier, and other public shorefronts throughout the harbor. The most common varieties of fish caught in the harbor and the adjacent waters of Long Island Sound are striped bass, bluefish, snappers, blackfish, weakfish, flounder and fluke. Recreational shellfishing is not legal in Hempstead Harbor, as the entire area is uncertified for this activity (see further discussion regarding water quality classifications and use standards in Section 3.4.3.2).

Hempstead Harbor also is a popular area for waterfowl hunting, taking advantage of its status as a regionally significant waterfowl wintering area. The waterfowl hunting season varies with species, but generally occurs between the mid-fall and early winter.

The navigational charts show that a pipeline area beneath the harbor bottom extends between Bar Beach and Glenwood Landing.

3.4.3 Water Quality Conditions

3.4.3.1 Water Quality Improvement Plan

Water quality aspects of the Harbor Management Plan for Hempstead Harbor are addressed in an earlier investigation undertaken by the Hempstead Harbor Protection Committee, the results of which are summarized in the *Water Quality Improvement Plan for Hempstead Harbor* (Final Report, May 1998). This was a watershed-wide investigation directed at characterizing the sources of water quality impairments in the harbor and formulating a strategy for mitigation.

The primary factor affecting water quality in Hempstead Harbor is contaminant loadings derived from storm water runoff, although various other sources are also important (i.e., groundwater underflow, discharges from on-site wastewater disposal systems, sewage treatment plant effluent, vessel wastes, fecal wastes from waterfowl, hazardous substance spills, etc.). Stormwater is delivered to the harbor by two primary means. Unconcentrated sheet flow is shed from the upland as a non-point discharge; this condition pertains only to a small portion of the entire watershed, and generally applies only to lands immediately along the shoreline. The vast majority of the harbor's stormwater input occurs via various conveyances, such as channels, culverts, outfall pipes, chutes, flumes, and similar devices. The distribution of such stormwater discharges within the study area and adjacent portions of the harbor's watershed are illustrated in Map 3-10.

In order to quantify non-point pollutant loadings to the harbor, the *Water Quality Improvement Plan* undertook numerical modeling for a series of 12 sub-watersheds into which the harbor's entire 25-square mile upland watershed was divided. Based on these results, the sub-watersheds were ranked, with the top six areas (in order of decreasing overall contribution of non-point source pollution to the harbor) being as follows:

1. Sea Cliff sub-watershed - occupying almost all of the eastern harborfront to the south of Glen Cove Creek
2. Roslyn West sub-watershed - occupying the southwesterly frontage on the harbor, and the western side of the Roslyn Pond drainage system
3. Roslyn East sub-watershed - occupying the remainder of the eastern harborfront
4. Flower Hill sub-watershed - lying along the western harborfront just to the north of the Roslyn West sub-watershed
5. Glen Cove South sub-watershed - lying directly to the north of the Sea Cliff sub-watershed, and fronting on the south side of Glen Cove Creek
6. Old Brookville sub-watershed - the largest sub-watershed (comprising more than 54 percent of the total watershed), lying upland from the Sea Cliff sub-watershed, but also extending along the northern side of Glen Cove Creek

The recommendations developed under the *Water Quality Improvement Plan* includes:

- **public education initiatives**, such as a quarterly newsletter, informational brochures, development of a watershed management curriculum, and establishment of an annual "Save the Harbor Day" event;

- **source control measures**, including decreased pesticide and fertilizer use, water conservation, decreased use of roadway de-icing materials, institution of a septic management ordinance in communities that use this means of sewage disposal, closer scrutiny of development applications to ensure that adequate measures are implemented to control non-point source pollution, municipal good housing-keeping practices, enactment of a watershed-wide "pooper scooper" law, enactment and enforcement of a watershed-wide law banning the feeding of waterfowl, and increase in the inter-municipal consistency of various source control measures; and

- **delivery reduction measures**, including a focused effort to address problems in the top six priority sub-watersheds listed above, development of improved GIS-based maps of drainage systems, implementation of specific structural improvements to augment treatment capabilities of existing drainage systems and abate non-point source pollution in the six top-priority sub-watersheds, establishment of a watershed management district to address the mitigation of water quality impairments in the harbor.

The specific delivery reduction projects recommended by the *Water Quality Improvement Plan* include:

- Sea Cliff sub-watershed - improvements to drainage system at Scudders Pond, including a sediment trap on the drainage line from Littleworth Lane; upgrade of the collection system for Motts Cove;

- Roslyn West and East sub-watersheds - dredging of the Roslyn Pond system bank stabilization of the pond shorelines, aeration of the ponds, installation of vegetation to discourage use of ponds by waterfowl, and installation of a multi-baffled sedimentation chamber up-gradient of the pond system; installation of sediment traps at the end of Lumber Street (on the west side of the harbor, extending northward from Old Northern Boulevard) and Skillman Street (on the east side of the harbor, just south of the Viaduct);

- Glen Cove South and Old Brookville sub-watersheds - removal of existing storm drain inlets and replacement with sediment sump-type water quality inlets; and installation of various devices to treat stormwater generated in the redevelopment area on the north side of Glen Cove Creek; and upgrade of Cedar Swamp Creek drainage collection system, involving the replacement of 20 to 25 conventional storm inlets with water quality inlets or sediment catch basins; and

- All Sub-watersheds - inclusion of water quality mitigation practices in roadway projects, wherever practicable; videotaping of drainage collection systems in Roslyn, Roslyn Harbor, Sea Cliff and Glen Cove prior to initiation of work on system upgrades, in order to identify interconnections.

3.4.3.2 Water Quality Classification and Use Standards

The quality of marine and estuarine waters can be assessed on the basis of a variety of variables, including color, odor, floating and suspended solids, oil, toxic compounds, and other deleterious substances. Water quality classifications in New York State are currently based primarily on three indices: total coliform level, fecal coliform level, and dissolved oxygen concentration.

The primary objective of most on-going water quality monitoring programs in New York State is to prevent human health impacts from exposure to pathogenic bacteria and viruses (e.g., the hepatitis and Norwalk viruses, and the Salmonella bacteria), which can result from either direct contact with contaminated water or the consumption of tainted shellfish. However, the detection of these pathogens is generally a time consuming and tedious undertaking. Consequently, water quality testing entails the use of coliform bacteria, which are relatively easy to measure; these bacteria co-occur with the pathogens of primary concern and serve as indicators of the possible presence of those pathogens.

In order to be certified as a shellfish harvesting area, the median total coliform level for any series of samples must be 70 MPN/100 ml or less (where MPN/100 ml is the most probable number of organisms per 100 milliliters of sample). New York State (2 NYCRR Part 701.20) classifies these certified shellfishing waters as “SA”, which designates the highest level of water quality. An “SB” classification is assigned where the monthly median total coliform level is 70 to 2400 MPN/100 ml, where no more than 20 percent of the samples exceed 5000 MPN/100 ml, and where the monthly geometric mean value is 200 MPN/100 ml or less. The best intended use for SB waters is swimming.

According to the *New York State Water Quality 2000* report issued by NYSDEC's Division of Water pursuant to Section 305(b) of the Federal Clean Water Act Amendments of 1977 (PL 95-217), the waters of Hempstead Harbor are classified as SA, which pertains to saline waters that are suitable for shellfishing for market purposes, as well as for both primary and secondary recreation. This classification is a target designation based on the perceived best use of the harbor, rather than being based on actual water quality. Although water quality does appear to have improved following the close of the Roslyn Village Sewer Treatment facility in the late 1980s (as is evidenced by the reduction in the occurrence of beach closures since the early 1990s – see Section 3.4.2.3), shellfishing harvesting is still prohibited throughout the entire area of Hempstead Harbor, which has been the case since 1966.

Currently Hempstead Harbor is not subject to regular bacterial monitoring for the purpose of determining whether water quality conditions conform to New York State shellfishing standards. In fact, water quality degradation in this area is a regional problem, which has contributed to the closure of shellfish beds throughout the entire portion of Long Island Sound and its tributaries to the west of Matinecock Point (at the northwest corner of the study area for this HMP). This large area which is uncertified year-round for shellfish harvesting has been attributed primarily to the input of contaminants carried in urban runoff from adjacent uplands.

3.4.3.3 Water Quality Monitoring

A variety of organizations are involved in monitoring the water quality of Hempstead Harbor, including:

New York State Department of Environmental Conservation (NYSDEC) - NYSDEC's primary responsibility with respect to the monitoring of coastal water quality is to ensure that conditions in shellfish harvesting areas meet the minimum sanitary conditions necessary to satisfy SA standards. As noted above, all of Hempstead Harbor has a classification of SA, which is based upon the perceived best use of the harbor, rather than on actual water quality conditions. In the 1960s, the entire area of Hempstead Harbor was closed to shellfish harvesting due to the occurrence of measured coliform levels at that time that consistently failed to meet SA standards. Thereafter, NYSDEC terminated regular coliform testing in the harbor, and this area has remained uncertified year-round based on the lack of requisite data indicating conformance with shellfish harvesting standards.

NYSDEC operates a conditional shellfish harvesting program, which allows shellfish to be taken from certain areas that are usually classified as uncertified. During periods of little or no rainfall, when contaminant inputs derived from non-point source runoff are reduced, water quality can improve to the point where it meets the high standards for certified shellfishing areas. Most conditional programs are operated during the colder months of the year, usually from mid-

December through mid-April, when typically there is less rainfall and less outdoor activity that can contribute to contaminated runoff.

Conditional programs are operated by NYSDEC in cooperation with most towns in Nassau and Suffolk Counties. Each year NYSDEC requests each town to recommend two areas which local baymen have expressed interest in having designated as conditional harvesting areas. Before establishing the conditional programs each year, NYSDEC examines and evaluates the water quality of each requested area. The towns assist in collecting water samples which are examined in the NYSDEC's microbiology laboratory. The testing results are used to determine how much rainfall and runoff each area can receive and still have water quality consistently suitable for the harvest of shellfish.

Presently, conditional shellfish harvesting does not occur in Hempstead Harbor. However, if local baymen indicate an interest in seeking access to the shellfish beds in the harbor, a request can be submitted to NYSDEC seeking consideration for the establishment of a conditional program in these waters. In addition to the requisite evaluation of water quality conditions discussed above, it is important to recognize that the viability of such a program would depend on the level of interest expressed by local baymen, who generally will work only those areas that are expected to be productive, sheltered from the harsh winter weather, and in close proximity to locations where they can moor or launch their boats.

Nassau County Department of Health (NCDH) - The NCDH performs water quality testing at the five beaches along the Hempstead Harbor shoreline. The testing occurs bi-weekly between mid-April and mid-September of each year. In the past, sampling was conducted at 13 different stations around the Harbor. Budgetary constraints in the early 1990s, however, led to the elimination of the County's Bureau of Water Pollution Control and as such the water sampling program was significantly reduced. The NCDH also conducts coliform analysis of mid-harbor water samples that are collected by the *Coalition to Save Hempstead Harbor*.

Interstate Environmental Commission (IEC) - The IEC, formerly the Interstate Sanitation Commission, was created in the 1930s to monitor pollution in the waters shared by New York, New Jersey and Connecticut. The IEC has two monitoring sites within Hempstead Harbor (Stations HC and HD) and one site near the interface of the harbor and the Sound (Station HC1). During the summer season, data are usually collected on a weekly basis at the three stations. Data is collected by monitoring the following parameters: temperature, salinity, dissolved oxygen, and chlorophyll *a*. Unusual occurrences are logged as well, including such things as algal blooms, biological events or floatable debris. Effluent from the Glen Cove STP is monitored as well, for total suspended solids, biochemical oxygen demand, settleable solids, total coliform, pH, temperature and turbidity.

Coalition to Save Hempstead Harbor (CSHH) - The CSHH has been involved in overseeing a citizens' water quality monitoring program for the harbor over the past ten years. This ongoing program involves the collection of mid-harbor water samples for coliform testing by the NCDH; as well as the sampling and testing of a number of parameters including total and fecal coliforms, dissolved oxygen (DO), salinity, water temperature, pH, nitrite, nitrate, and ammonia. The participants of the program also keep a log of a number of observations pertaining to weather conditions, wind velocity and direction, water and air temperature, presence of floating debris, water turbidity/clarity, wildlife, and human activity. The CSHH also is involved in other environmental investigations such as fish surveys and its 1998 hard-shell clam survey.

During the summer of 1999, the Town of Oyster Bay received Environmental Protection Fund financing from New York State for the purchase and installation of a stationary water quality-monitoring probe, which was positioned near the middle of Hempstead Harbor. The probe collects data on an hourly basis for a number of parameters including DO, water temperature, pH, and depth and stores this data in its memory. The probe is maintained by the CSHH and is retrieved periodically so that stored data can be downloaded for evaluation and re-deployed for additional data gathering.

The Town of Oyster Bay also recently acquired a new water sampling boat, which is stationed at the Tappen Beach Marina and is used in the CSHH testing program. The boat collects samples at eight mid-harbor stations in the upper and lower harbor. Water samples are collected at least once a week and are analyzed for a standard set of parameters. The crew also removes debris that they encounter in the waters.

Results of water quality sampling by the CSHH have indicated periodic deficits in DO concentrations, which reflect regional conditions noted in western Long Island Sound. Periodic high levels of fecal and total coliforms have also been observed; however, significant improvements have occurred with respect to this parameter since the late 1980s and early 1990s. There has been a decrease in beach closures since the early 1990s, and a general trend toward improving water quality conditions has been noted.

United States Geological Survey (USGS) - The USGS has maintained a flow gauging station located on the Glen Cove Creek since 1996. The station is located within the Mill Pond Preserve and monitors a wide range of physical and chemical parameters.

3.4.4 Water-side Ecological Resources

3.4.4.1 Tidal Wetlands

Although the shoreline of the Hempstead Harbor area has been altered to a large degree by development, significant areas of tidal wetlands are found throughout these waters. Tidal wetlands in this area consist of the following four major types: intertidal marsh (IM), high marsh (HM), coastal shoals, bars, and mudflats (SM), and littoral zone (LZ), which are briefly described below:

- An IM classification is assigned to those wetland areas located between average high and low tide levels, and within which smooth cordgrass (Spartina alterniflora) is the predominant vegetative species. IM are the most biologically productive of all tidal wetland categories, and have high values for flood and sediment control. Even small patches of IM wetland are considered by NYSDEC to be of critical importance.

- HM areas normally occupy the uppermost tidal wetland zone, and are typically dominated by salt meadow cordgrass (Spartina patens) and salt grass (Distichlis spicata). The upper limit of this zone is often occupied by marsh elder (Iva frutescens) and groundsel bush (Baccharis halimifolia). The common reed (*Phragmites australis*) may also be present, especially in areas that have been disturbed by human activities. HM areas, while critically important for marine food production, are slightly less important in this regard than IM areas. HM areas are as important as IM areas for absorbing silt and organic material, and providing flood and storm control. Because they are located generally in such a way that they are the first tidal wetland area to receive run-off and other materials from the land, HM areas have an important role in cleansing ecosystems.

- SM wetlands are those areas lacking smooth cordgrass that area covered by water at high tide and are exposed or covered by less than one foot of water at low tide. Sediment texture can vary significantly in SM areas, from mud flats in protected embayments to sandy shoals in areas subject to wave and current action.

- LZ wetlands occur in tidal waters of average depth less than six feet that do not meet the requirements for classification under any of the other wetland categories. SM and LZ areas exhibit extreme variability in their contribution to biological productivity and other tidal wetland values, but are less valuable than IM or HM areas in this regard.

  SM and LZ wetlands include areas of extreme variability in their contributions to marine food production and other tidal wetland values, and each such area requires a specific assessment of tidal wetland values. Some SM and LZ areas have extremely high

biological productivity and are nearly or equally as important in this respect as IM and HM areas. Other SM and LZ areas are of little biological significance. Even in these relatively unproductive areas, however, values other than marine food production are often present, and these areas often have the potential to become more biologically productive in the future.

Tidal wetlands perform a variety of important and useful functions, including the following:

- Marine food production: tidal wetlands are among the most productive ecosystems in the world

- Wildlife habitat: tidal wetlands are important as breeding, nesting, and feeding grounds for a variety of invertebrates, fishes, birds, and mammals

- Flood and storm control: tidal wetlands serve as a natural buffer, absorbing wave damage and protecting beaches and developed upland from storm tides

- Recreation: tidal wetlands provide many opportunities for hunting, fishing, bird watching, and study of natural history and ecology

- Pollution control: tidal wetlands are capable of assimilating pollutants and chemically and biologically converting them into useful nutrients

- Sedimentation: tidal wetlands absorb silt and organic matter, which otherwise would obstruct channels and harbors.

Tidal wetlands are an important element of the designated Significant Coastal Fish and Wildlife Habitat in Hempstead Harbor.

NYSDEC regulates all activities undertaken within the boundaries of State-designated tidal wetlands and adjacent buffer areas, pursuant to Article 25 of the Environmental Conservation Law (ECL) of New York State. All activities undertaken within a tidal wetland or adjacent area, with the exception of most routine repairs to existing structures, require a NYSDEC permit in accordance with the regulations promulgated in 6 NYCRR Part 661 (Tidal Wetlands Land Use Regulations).

NYSDEC regulations have effectively halted the direct, physical loss of tidal wetlands to development. However, those regulations are not, of themselves, sufficient to prevent a variety of potential indirect impacts. Most importantly, NYSDEC's jurisdiction does not include projects situated greater than 300 feet from the wetland boundary. Consequently, contaminated storm

water runoff discharges from projects (especially during construction) can cause wetland impairments unless proper management techniques are applied. In addition, motorboat traffic in shallow waters can destroy wetland vegetation both by direct physical disturbance and through the indirect effects of wakes. Therefore, further measures, beyond the provisions of the State's tidal wetlands regulations, are needed to protect this important resource in the Hempstead Harbor Complex.

The distribution of tidal wetlands within Hempstead Harbor is illustrated in Map 3-5, as based on NYSDEC's regulatory maps under Part 661. Most of the areas of NYSDEC-mapped tidal marsh are concentrated in the lower harbor, below Bar Beach. This includes wide areas of IM on the western shore, to the north of Hempstead Harbor Industrial Park, and a generally narrower fringe of IM along most of the eastern shore between Motts Cove and the Forest City Daly bulkhead in Roslyn. Additional areas of IM in the harbor occur: in the private Bird Sanctuary, along the eastern side of East Creek, at Prospect Point in the Village of Sands Point; in Captain's Cove, on the north side of Glen Cove Creek; as a thin fringe at other scattered locations in Glen Cove Creek; and in West Pond, to the north of the Welwyn Preserve in Glen Cove. NYSDEC-mapped HM wetland areas occur in the upper portions of the marsh area along the eastern side of East Creek.

NYSDEC-mapped SM wetlands have a somewhat wider distribution than tidal marshes in Hempstead Harbor. The main concentration of SM areas is in the lower harbor, seaward of the marshes. SM areas also are present along the shoreline extending south from Prospect Point, along the Sea Cliff shoreline, at the mouth of Glen Cove Creek, along the shoreline of the Welwyn Preserve in Glen Cove and at the inlets to Dosoris Pond in Glen Cove.

The NYSDEC tidal wetland regulatory maps were created in the mid-1970s, and although updated mapping is underway based on analysis of recent aerial photography and field surveys by NYSDEC, the information on the current maps for Hempstead Harbor has not yet been revised. Therefore, the extent of tidal wetland areas depicted on Map 3-5 may not accurately reflect actual conditions at this time. In particular, based on recent bathymetric charts and anecdotal information from local mariners, it appears that the SM areas in the lower harbor may be significantly more extensive than shown due to shoaling that has occurred over the more than 25 years since the NYSDEC maps were created.

3.4.4.2 Marine Fauna

Despite its historical role as a center for industrial activities, and residual environmental problems related to that heritage, Hempstead Harbor supports a rich marine fauna, and is a New York State-designated Significant Coastal Fish and Wildlife Habitat (extending out to a line between Mott Point in the Village of Sands Point and the Morgan Park breakwater, and excluding the

innermost section comprising Roslyn Creek). The New York State Department of State describes Hempstead Harbor as being important to fish and wildlife throughout the year. Hempstead Harbor also is part of a federally designated habitat area, covering the western harbors of Long Island, recognized as being important for many species of fish and wildlife, and has been designated by the National Marine Fisheries Service as containing Essential Fish Habitat for 15 species of fish.

Important species of finfish that are known to be present in the harbor during at least part of their life cycle include:

- Striped Bass - This is a top-level predatory and popular game fish during the warner months. Spawning occurs in freshwater rivers, with the local population based mostly in the Hudson River.

- Bluefish - This also is a top-level predator which is popular with recreational fishermen. Both adults and juveniles (known as snappers) are common in local estuaries in the summer and early fall.

- Winter Flounder - This popular game fish is a bottom dweller, which is abundant in upper estuary areas during its early larval stages, and gradually moves into the lower estuary as it grows. The juveniles eventually leave the estuary to follow the adults. The entire population shifts shoreward after the autumnal cooling commences, with the greatest concentrations in estuaries occurring between December and March. Winter flounder move back offshore as the water temperature rises again in the spring.

- Summer Flounder - This popular game fish (also known as fluke) is a bottom dweller. Spawning occurs as the fish migrate offshore during the autumn, starting in mid-September in this region. After metamorphosing from the free-floating larval stage, the juveniles spend most of their time on the bottom. Juvenile summer flounders are capable swimmers that migrate toward the shore and enter the estuaries; they are well-adapted for estuarine life, since they are able to withstand a wide range of temperatures and salinities. Juveniles apparently remain in the estuaries until they are of sufficient size to join an offshore migration with the adult population of summer flounders.

- Blackfish - This species is found in local estuaries in the spring and summer, in association with rough bottom, shellfish and eelgrass beds, and man-made structures.

- Weakfish - Long Island is in the heart of this species' range along the East Coast. Adults primarily feed on shrimp, larger zooplankton, crabs and other crustaceans and small fish. Estuaries, such as Hempstead Harbor, provide spawning grounds, nursery

habitat and feeding areas. Larger fish appear in the area in mid-spring, becoming most abundant in the summer. In the fall, adults begin a migration to the continental shelf. Spring warming of coastal waters prompts adults to migrate back to coastal waters. This is a popular recreational fish, but populations have been in decline for many years due to overfishing and habitat degradation.

- Windowpane Flounder - All life stages of this species of flatfish occur in estuaries such as Hempstead Harbor. Eggs and larvae are free-floating. Juvenile and adult windowpanes are bottom-dwellers, preferring mud and fine-grained sand. With growth and maturity this species tends to move offshore into deeper waters.

- Scup - This species (also known as porgy) spawns in local estuaries between May through August, with a peak during June. The eggs are free-floating. Scup eggs are found locally from May through August, while larvae are most abundant nearshore from May through September. Juveniles and adults of this species are bottom dwellers. Juvenile scup are found in local estuaries during the spring and summer. Adults winter offshore between November and April.

The predatory species of finfish described briefly above are sustained by abundant populations of bait fish and invertebrates. Important baitfish species include American menhaden (bunker), Atlantic silversides, sand lance (sand eel), mummichog, striped killifish, and bay anchovy. A wide range of invertebrates is present in the harbor, including: coelenterates (jellyfish); ctenophores (comb jellies); horseshoe crabs; barnacles; annelids (segmented worms); bivalves (hard clams, soft clams, razor clams, blue mussels, ribbed mussels, oysters, and jingle shells); gastropods (snails); and crustaceans (lobsters, near the mouth of the harbor; and crabs and shrimp throughout).

3.4.4.3 Waterfowl

The New York State Department of State, in the Significant Coastal Fish and Wildlife Habitat documentation, describes the habitat as being an important waterfowl wintering area, between November and March. Large numbers of scaup, canvasbacks, and black ducks are reported to use this area, and lesser numbers of migratory Canada goose, common goldeneye, red-breasted merganser, mallard, oldsquaw, bufflehead and American wigeon.

Although waterfowl are an important constituent of the Hempstead Harbor ecosystem, and the harbor's waters serve as a significant wintering area for many northern species, the proliferation of certain species (especially Canada goose) as year-round residents has reached nuisance levels. Some areas around the Harbor are more prone to waterfowl congregation than others. These include Roslyn Pond Park, William Cullen Bryant Preserve, Engineers Country Club, and

the Hawkins property on Scudder's Lane in Roslyn Harbor (where there is a natural private pond). In those locations where waterfowl populations are especially dense, their fecal wastes can contribute significantly to the overall pathogen levels in the receiving waters. These populations are kept artificially high, and have been enticed to abandon their normal migration patterns and remain local throughout the year, by the availability of food supplies (especially bread products) delivered by humans.

The impact that waterfowl can have on water quality conditions is illustrated by an analysis of the nearby Huntington/Northport Bay Complex (Fanning, Phillips & Molnar, Storm Water Management/Tidal Water Quality Remedial Study for the Town of Huntington, August 1992). That study identifies waterfowl wastes as being the second most important source of coliform bacteria (after storm water runoff), accounting for more than one-third of the total coliform loadings in some portions of the Huntington/Northport Bay Complex. Although no similar study has been undertaken in Hempstead Harbor, it is likely that waterfowl also make a significant contribution to coliform concentrations here as well.

The control of waterfowl wastes, as a source of surface water contamination is a particularly difficult problem to address. Even though signs may be posted and laws passed to discourage the introduction of artificial food supplies to waterfowl habitats, this activity continues to be popular. In fact, waterfowl feeding is widely perceived as being an acceptable form of family recreation, and serves the useful purpose of providing many local children with one of their first direct contacts with wildlife. Consequently, prohibitions on waterfowl feeding often are not vigorously enforced. Furthermore, any future effort to moderate waterfowl populations must be undertaken in such a manner that is consistent with the somewhat conflicting goal of protecting the harbor complex's important natural resources (including those same waterfowl), thereby limiting the range of viable options.

3.4.4.4 Other Avian Fauna

Hempstead Harbor and its immediate shoreline also support a large community of other species of birds, besides waterfowl. These include wading birds (e.g., herons and egrets), gulls and terns, cormorants, and various others. Among the most common avian species that utilize the waters and wetlands of Hempstead Harbor for nesting and/or feeding are:

Wading Birds – great blue heron, great egret, snowy egret, and black-crowned night heron

Gulls and Terns – laughing gull, ring-billed gull, great black-backed gull, herring gull, common tern, least tern

Cormorants – double-crested cormorant

Other Birds – red-winged blackbird, osprey, belted kingfisher

Least tern and common tern are listed by New York State as threatened, and osprey is listed by the State as a special concern species. Piping plover and roseate tern, which are rare or occasional visitors to Hempstead Harbor, both are State-listed endangered species. Bald eagle, common loon, American bittern, and black skimmer, all of which are State-listed specials of special concern, also are rare or occasional visitors. An endangered classification pertains to any native species in imminent danger of extirpation or extinction in New York State. A threatened classification pertains to any native species likely to become an endangered species within the foreseeable future in New York State. A species of special concern is any native species for which a welfare concern or risk of endangerment has been documented in New York State. Roseate tern also is listed by the U.S. Department of the Interior as a federally threatened species; piping plover is federally threatened in the Atlantic coast region; and bald eagle is federally threatened throughout its range.

Special efforts have been taken to provide expanded and enhanced habitat for the State-listed special concern osprey. In undisturbed areas, this species typically nests in large, dead trees. There are reports that some osprey nesting has occurred in trees in both upper and lower Hempstead Harbor. However, since this type of habitat is scarce in the Hempstead Harbor area, the number of available nesting sites has been augmented by artificial nesting platforms mounted atop utility poles. A number of these nesting structures have been installed on Town of North Hempstead-owned land on the west side of the lower harbor. Additionally, ospreys have established a nest on the fixed navigation tower located immediately to the north of Bar Beach and on pilings or docking structures in the harbor. In total, it is estimated that Hempstead Harbor contains approximately eight to ten osprey nests.

3.4.5 Underwater Lands

3.4.5.1 Underwater Land Ownership

The ownership of lands underwater on Long Island is a conglomeration of federal, State, town, and private title. As discussed below the underwater lands in Hempstead Harbor are owned by the State of New York (north of Bar Beach) and the Town of North Hempstead (south of Bar Beach).

The State of New York holds title to the vast stretches of the foreshore (area located between the high and low water marks) and submerged lands of Long Island located along the Atlantic Ocean and Long Island Sound, as well as all underwater lands not otherwise conveyed away by patents or grants. New York State gained such title when it attained Statehood and succeeded the King of England in ownership to all lands within the State not already granted away, including

all rights and title to the navigable waters and the soil beneath them (Public Lands Law, Section 4; People v Trinity Church, 22 N.Y. 44, 1860; Langdon v. Mayor, 93 N.Y. 129, 1883). The uplands and submerged lands described and conveyed to Long Island townships through colonial patents remained vested in the towns, as confirmed by the first New York State Constitution and subsequent State Constitutions. The State holds title to the tidelands and submerged lands in its sovereign capacity in trust for the use and enjoyment of the public under the *Public Trust Doctrine*. Thus, the public in the State of New York has the absolute right, via this doctrine, to use the navigable waters, the foreshore area of the shoreline, and underwater lands.

Generally, but not always, the seaward boundary of a waterfront parcel runs with the mean high water line and progresses outward or recedes inland as the shoreline naturally accretes or erodes. The water-side boundary of some properties is defined by fixed metes and bounds, however, which do not shift with changes in the position of the shoreline; such parcels often end up including an underwater land portion if the shoreline erodes, or can be cut off from direct access to the water if the shoreline accretes. Artificial filling of publicly-owned underwater lands can complicate ownership issues, and such matters frequently are resolved through legal proceedings on a case-by-case basis.

According to the New York State Office of General Services, (W. Smead, NYSOGS, July 23, 1995), the underwater lands in Hempstead Harbor to the north of Bar Beach, including Glen Cove Creek, are owned by the State of New York. These State-owned underwater lands are managed and regulated by the OGS. NYSDEC regulates activities in tidal wetlands and structures on or over underwater lands that are owned by other entities.

The OGS oversees the issuance of grants, leases, easements and other lesser interests (licenses and permits) for State-owned underwater lands to allow upland property owners the right to utilize and occupy these lands, mostly for the purpose of accessing navigable waters. On State-owned underwater lands, the OGS regulates all commercial structures, regardless of size, but does not regulate structures that are less than 5,000 square feet in area and used for non-commercial purposes. The OGS also reviews NYSDEC and U.S. Army Corps of Engineers comments for proposed projects that affect State-owned underwater lands to ensure that the benefits to the public will not be deprived and that the environment will not be adversely impacted. Similar provisions hold for underwater lands under Town of North Hempstead ownership, with the Town Board managing and overseeing the use of these lands.

The Town of North Hempstead's claim to underwater lands in Hempstead Harbor is based on the Kieft Patent of 1644 and the Dongan Patent of 1686. The Kieft Patent granted title to lands known as Hempstead Bay (now known as Hempstead Harbor) with the ownership to begin at the head of the bay; however, this boundary was never precisely located. The subsequent Dongan Patent delineated the northerly boundary of the Town's grant at Bar Beach. Originally,

the grants were made to the Town of Hempstead, which then included the area that now comprises the Town of North Hempstead. However, these lands were transferred to the Town of North Hempstead when it was split off from the Town of Hempstead in 1784 by the State Legislature.

Until 1962, the State of New York had consistently exercised domain over the underwater lands throughout Hempstead Harbor, and the courts found that title of ownership by the Town of North Hempstead was not clear and free of doubt. Although the Town openly protested the State's granting away of underwater lands in the harbor, the State continued to maintain its ownership title and overruled the objections of the Town. This situation was rectified by the passage of Chapter 508 of the 1962 Laws of New York, which formally granted to the Town of North Hempstead all right, title and interest to all the underwater lands in Hempstead Harbor, including all coves, creeks, or other tributaries, located south of Bar Beach. Under this action, the State retained ownership of all underwater lands in the harbor located north of Bar Beach.

3.4.5.2 Underwater Land Grants and Leases

The underwater lands along the Hempstead Harbor shoreline that are owned by New York State and the Town of North Hempstead extend to the mean high water line. Owners of upland waterfront properties have the right, known as their riparian or littoral right, to access navigable waters located seaward of their properties. Riparian/littoral rights run with the upland property. It only applies to parcels that front on the shoreline of a surface water body. This right is limited to or guided by the use of the upland property and how this property is zoned, and it does not give the upland owner the right to fill or otherwise alter the shoreline.

A number of underwater land grants have been issued by the State to various owners of upland shorefront property along the Harbor over the years to enable them to construct docks and such. These grants were issued for the express purpose of beneficial enjoyment, and include:

- City of Glen Cove: Submerged Land License (L # 00263), to install & maintain a passenger ferry landing facility
- Town of Oyster Bay, Tappen Beach (9/1967)
- Sarah Pirie, Riparian Rights (5/1893)
- Theodore Sheridan, Riparian Rights (5/1893)
- Village of Sea Cliff, 18 Trails Park (5/1970)
- Village of Sea Cliff, Village Beach (3/1938)
- Matzok, Hurley & Leach, Riparian Rights (8/1962)

TABLE 3-1

Hempstead Harbor Management Plan
Current Zoning Categories

	Equivalent Municipal Category							
Category	**Sands Point**	**Flower Hill**	**Roslyn**	**Roslyn Harbor**	**Oyster Bay***	**Sea Cliff**	**Glen Cove**	**North Hempstead**
Marine Waterfront					W-A		MW-1 MW-2 MW-3	
Industrial			O-I				I-1 I-3	
Business			C-V				B-2	B-B
Mixed (Residential/Business)			R-C					
Planned Unit Development								PUD-A**
R-1	RES A RES B RES C			R-AA				
R-2				R-A				R-AAA
R-3		R-7	R-2 RWD		R1-20	RES A RES C RES D		R-A
Open Space Recreation			OSR					

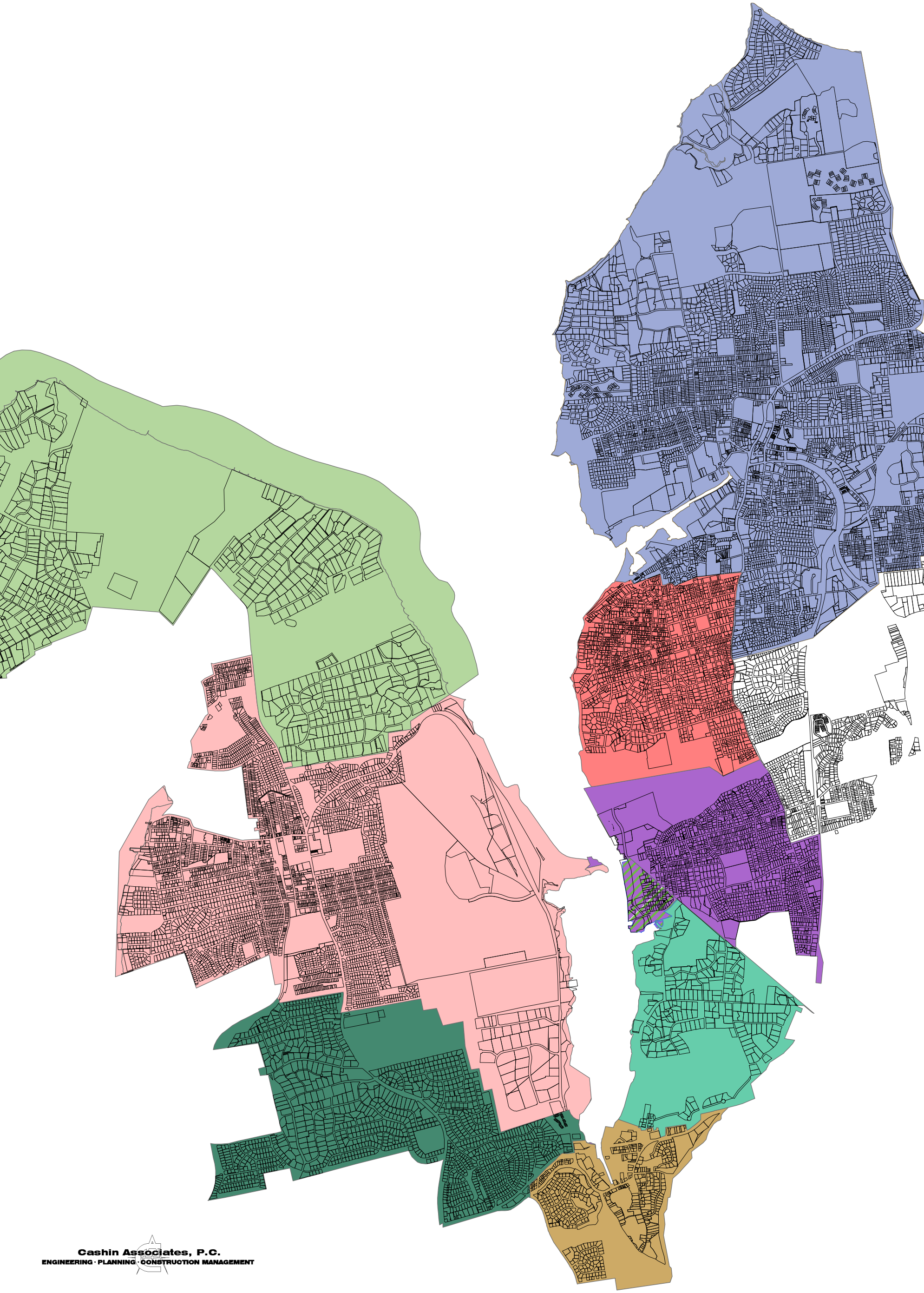
* The Glenwood Landing area in the Town of Oyster Bay was subject to a *Redevelopment and Revitalization Plan*, completed in October 2002. This *Plan* has been adopted by the Oyster Bay Town Board, and in January 2004 the Town Board adopted zoning amendments recommended in the *Plan*,. These zoning amendments include the creation of a special waterfront zoning district covering properties that had been zoned for industrial use, as well as upzoning of the portion of the North Shore Country Club property in the Town of Oyster Bay from R1-10 to R1-20.

** There are several sub-categories listed under the PUD category in North Hempstead, which is limited to the area of the Harbor Links Golf Complex. These sub-categories consist of:

PUD-NP (Nature Preserve)
PUD-CR (Commercial Recreation)
PUD-NC (Neighborhood Commercial)
PUD-GRR (Golf and Related Recreation)
PUD-SRC (Senior Residential Community)

Residential Minimum Lot Sizes

R-1 = > 1 acre
R-2 = > ½ acre, but < or = 1 acre
R-3 = < or = ½ acre



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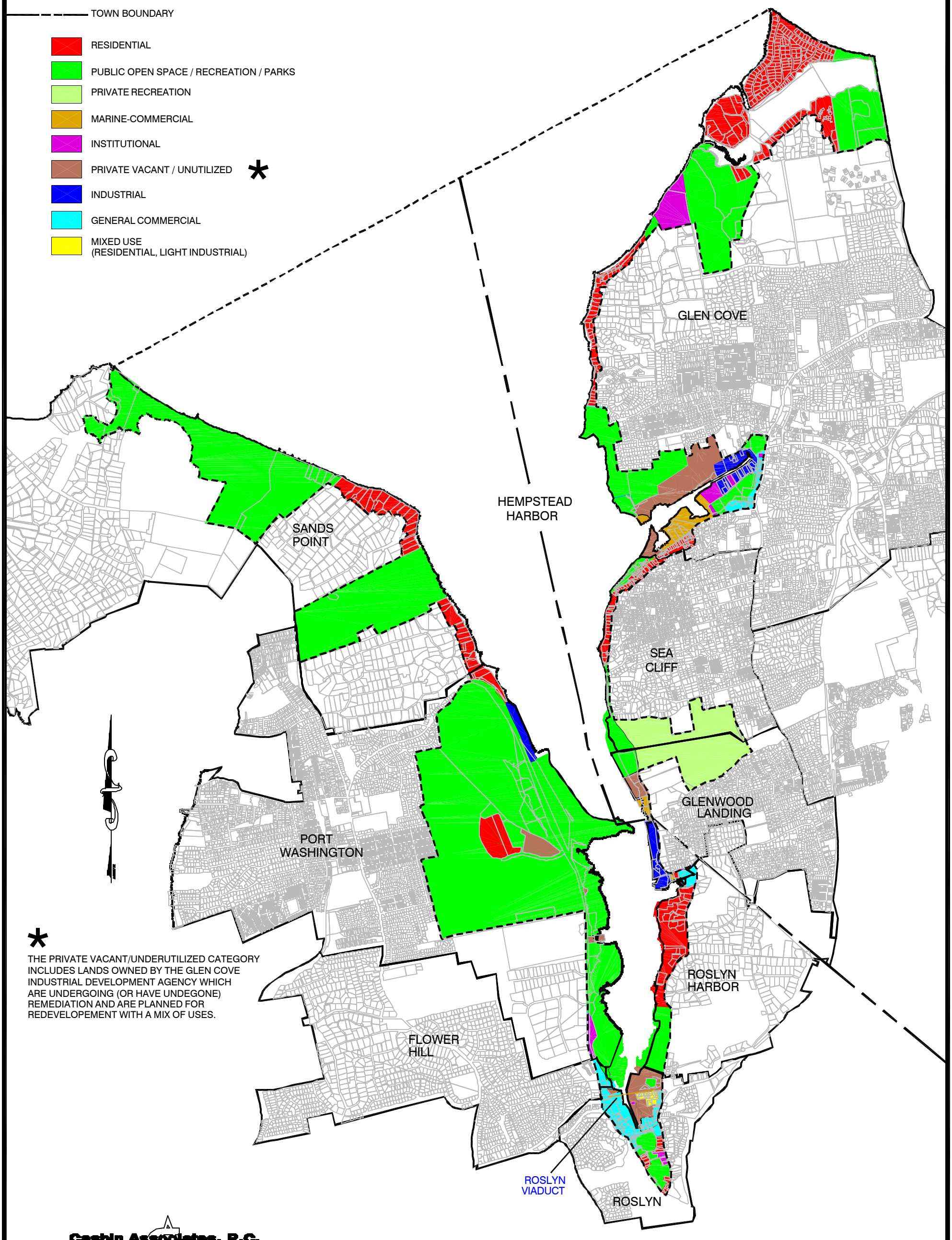
MAP 3-2
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
EXISTING LAND USE

LEGEND

- STUDY AREA BOUNDARY
- TOWN BOUNDARY
- RESIDENTIAL
- PUBLIC OPEN SPACE / RECREATION / PARKS
- PRIVATE RECREATION
- MARINE-COMMERCIAL
- INSTITUTIONAL
- PRIVATE VACANT / UNUTILIZED *
- INDUSTRIAL
- GENERAL COMMERCIAL
- MIXED USE (RESIDENTIAL, LIGHT INDUSTRIAL)



* THE PRIVATE VACANT/UNDERUTILIZED CATEGORY INCLUDES LANDS OWNED BY THE GLEN COVE INDUSTRIAL DEVELOPMENT AGENCY WHICH ARE UNDERGOING (OR HAVE UNDEGONE) REMEDIATION AND ARE PLANNED FOR REDEVELOPEMENT WITH A MIX OF USES.

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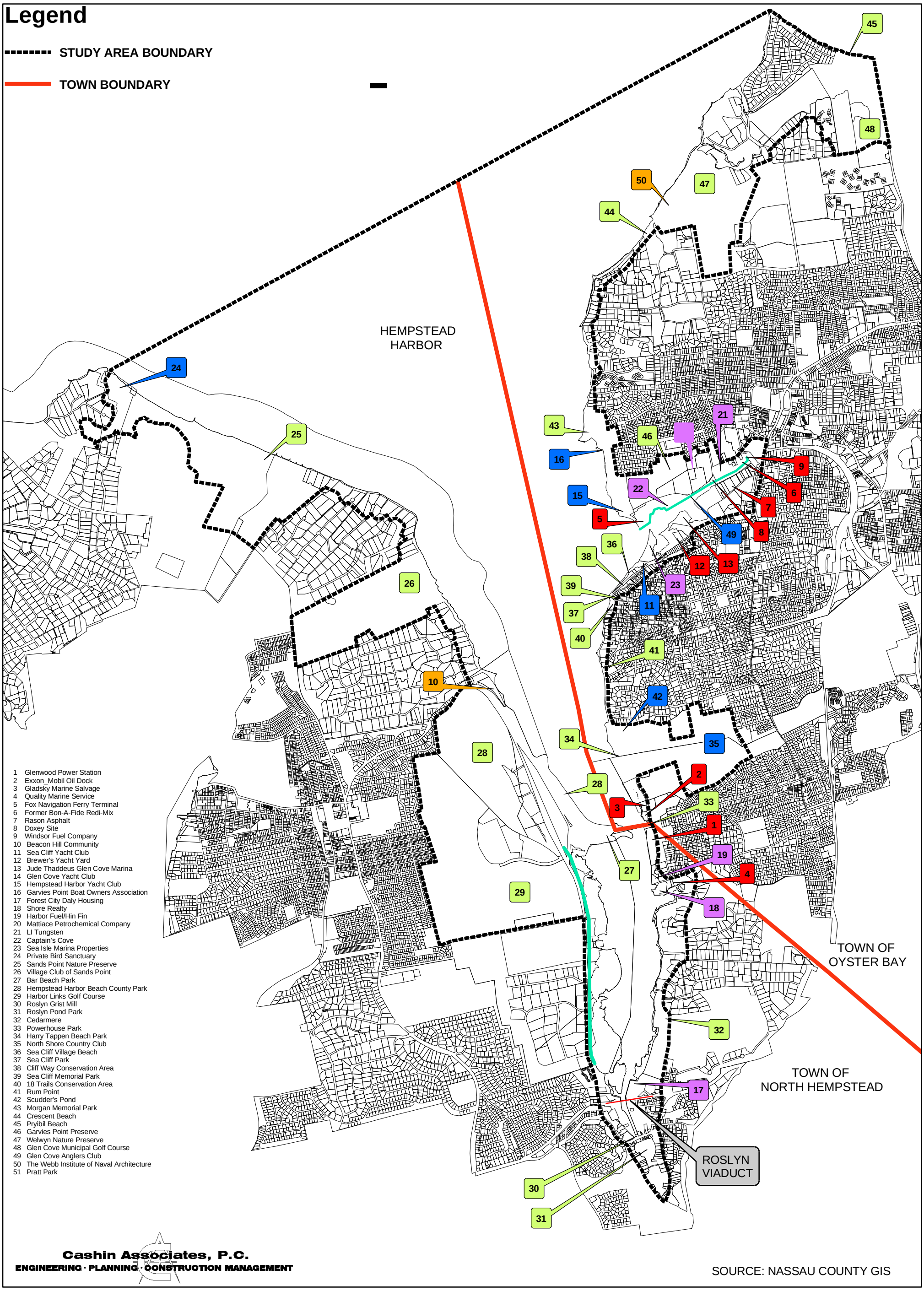
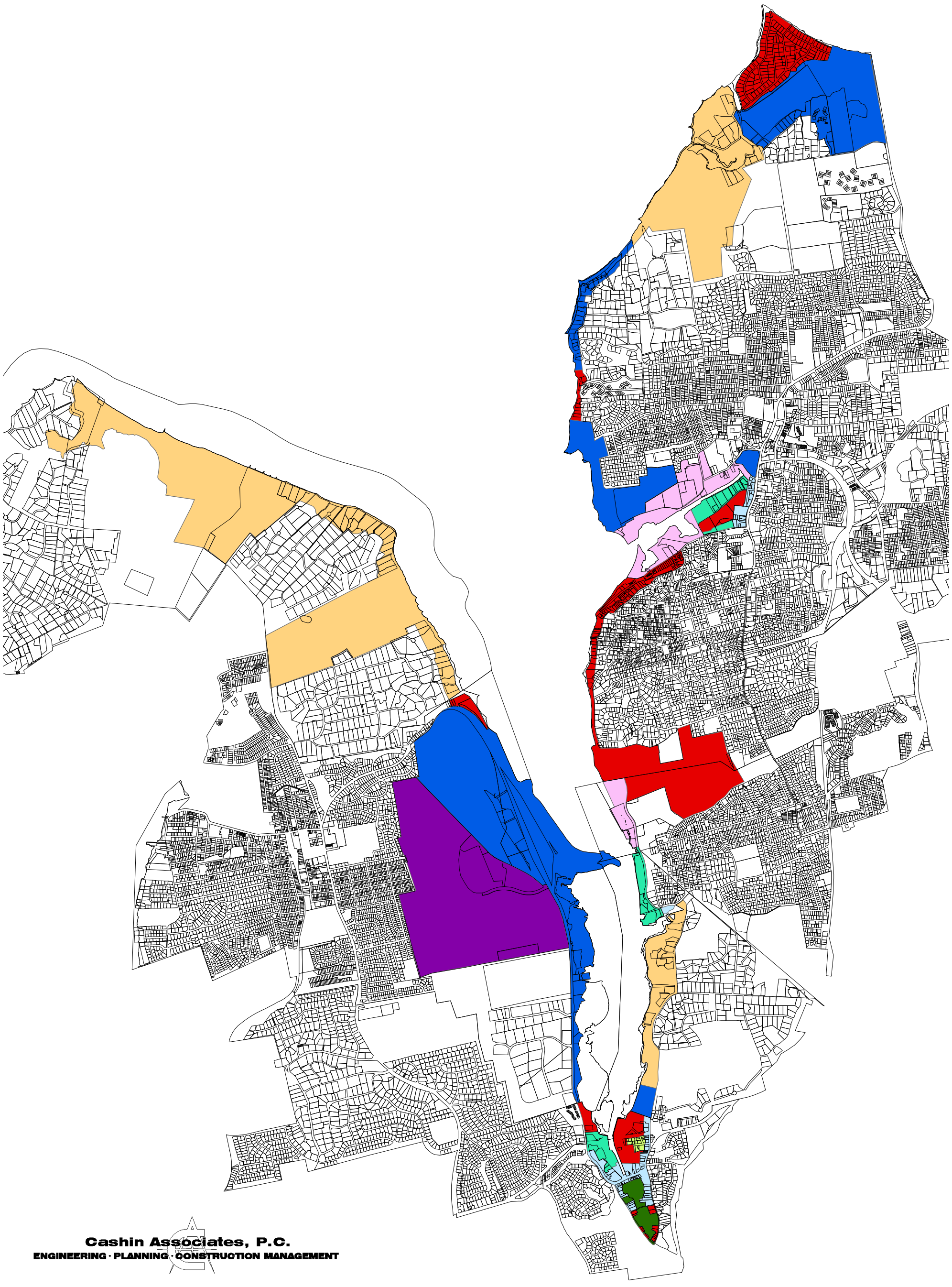
MAP 3-3
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
LOCATIONS OF KEY PARCELS AND FACILITIES





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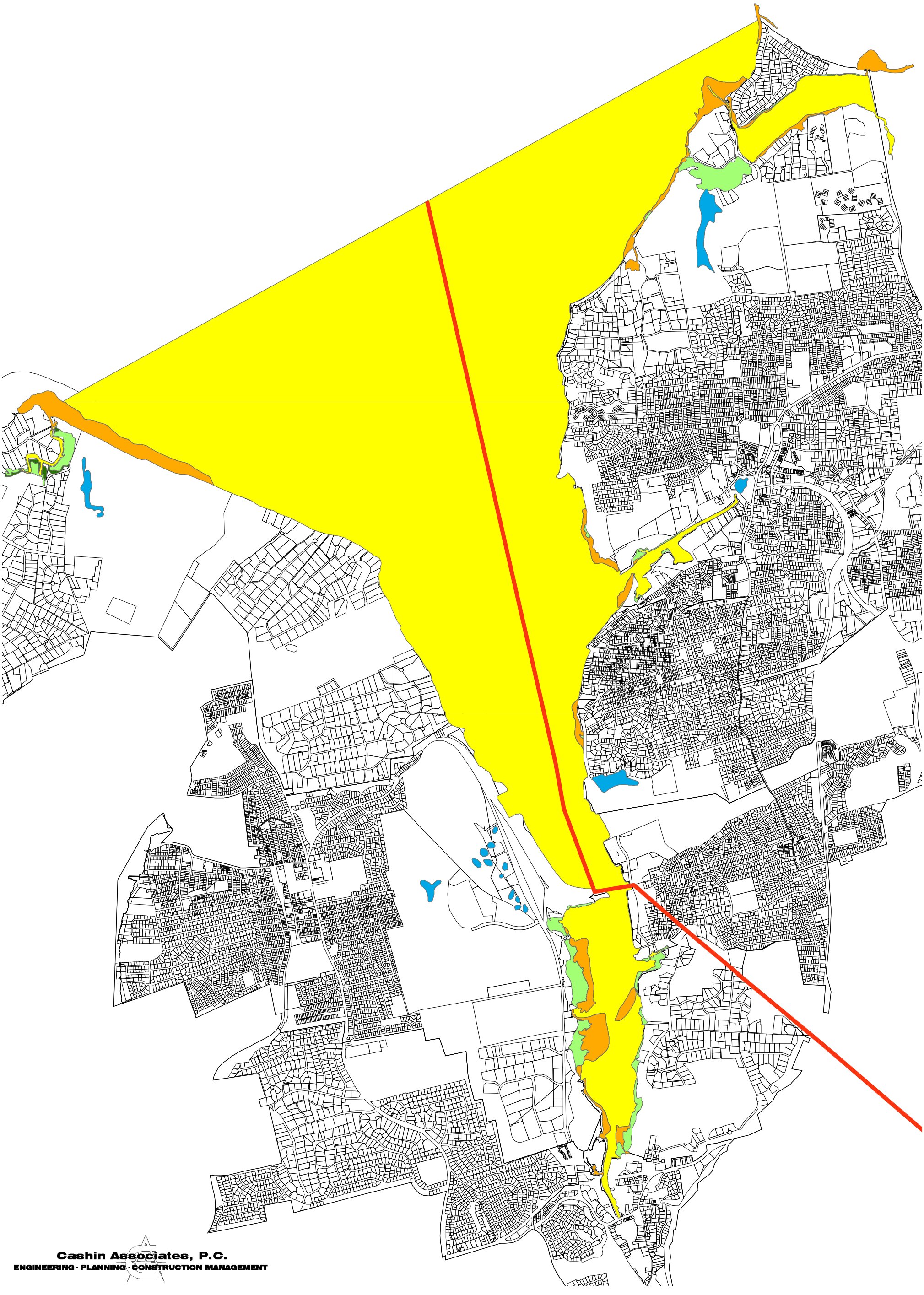

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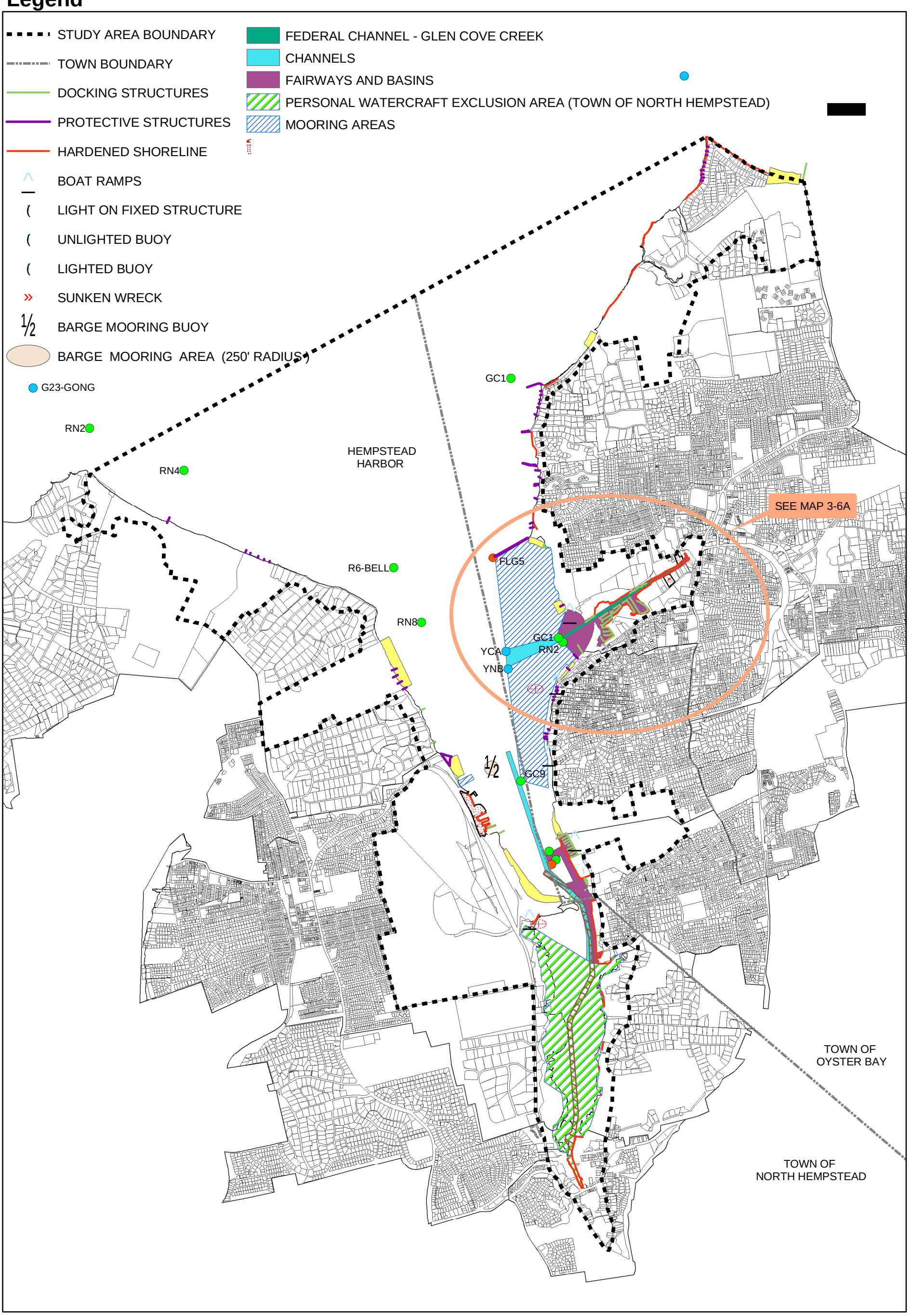
MAP 3-6
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
EXISTING WATER USES AND SHORELINE STRUCTURES

Legend

- STUDY AREA BOUNDARY
- TOWN BOUNDARY
- DOCKING STRUCTURES
- PROTECTIVE STRUCTURES
- HARDENED SHORELINE
- BOAT RAMPS
- LIGHT ON FIXED STRUCTURE
- UNLIGHTED BUOY
- LIGHTED BUOY
- SUNKEN WRECK
- BARGE MOORING BUOY
- BARGE MOORING AREA (250' RADIUS)
- FEDERAL CHANNEL - GLEN COVE CREEK
- CHANNELS
- FAIRWAYS AND BASINS
- PERSONAL WATERCRAFT EXCLUSION AREA (TOWN OF NORTH HEMPSTEAD)
- MOORING AREAS



0 0.5 1 2 3 4 Miles

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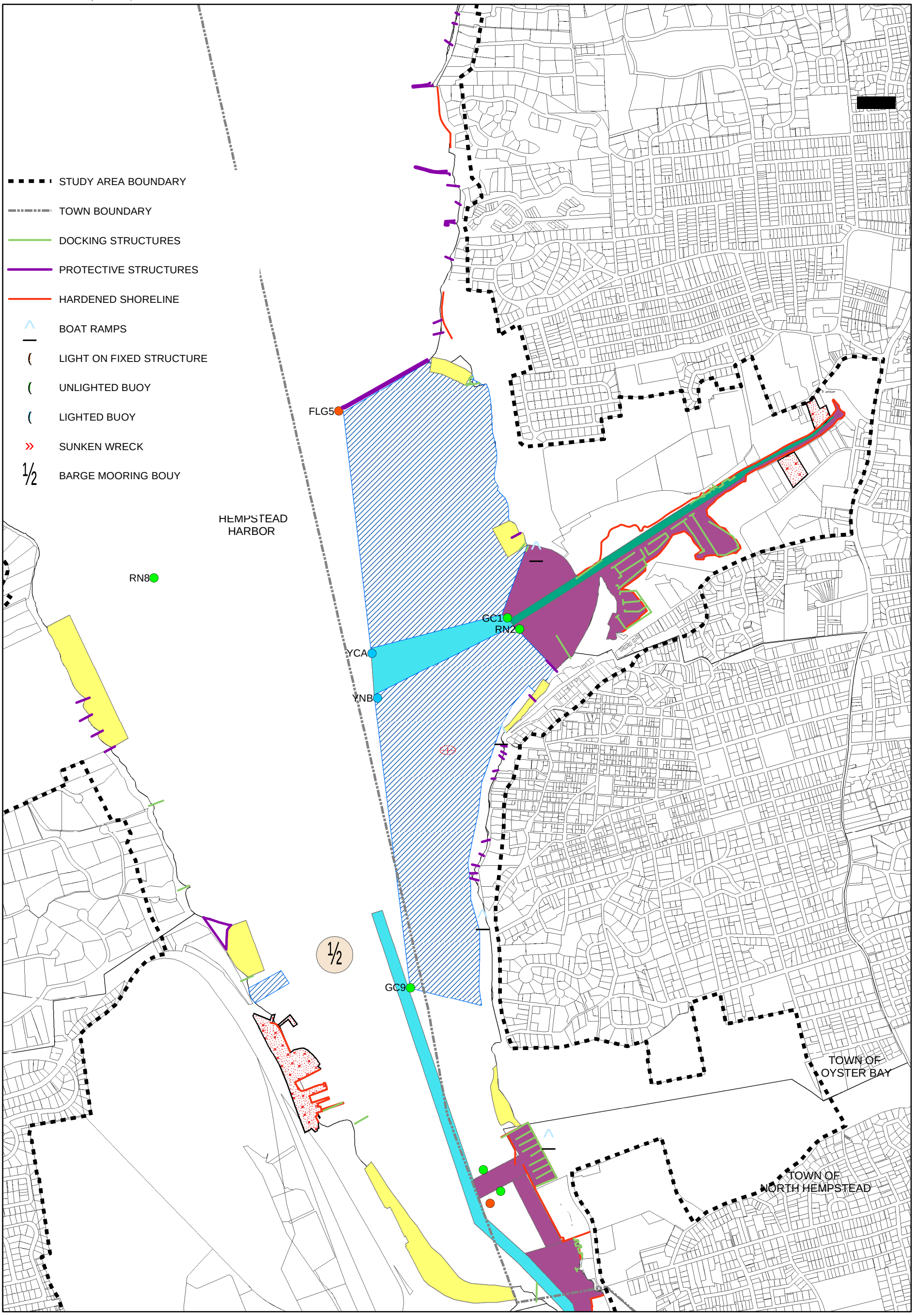
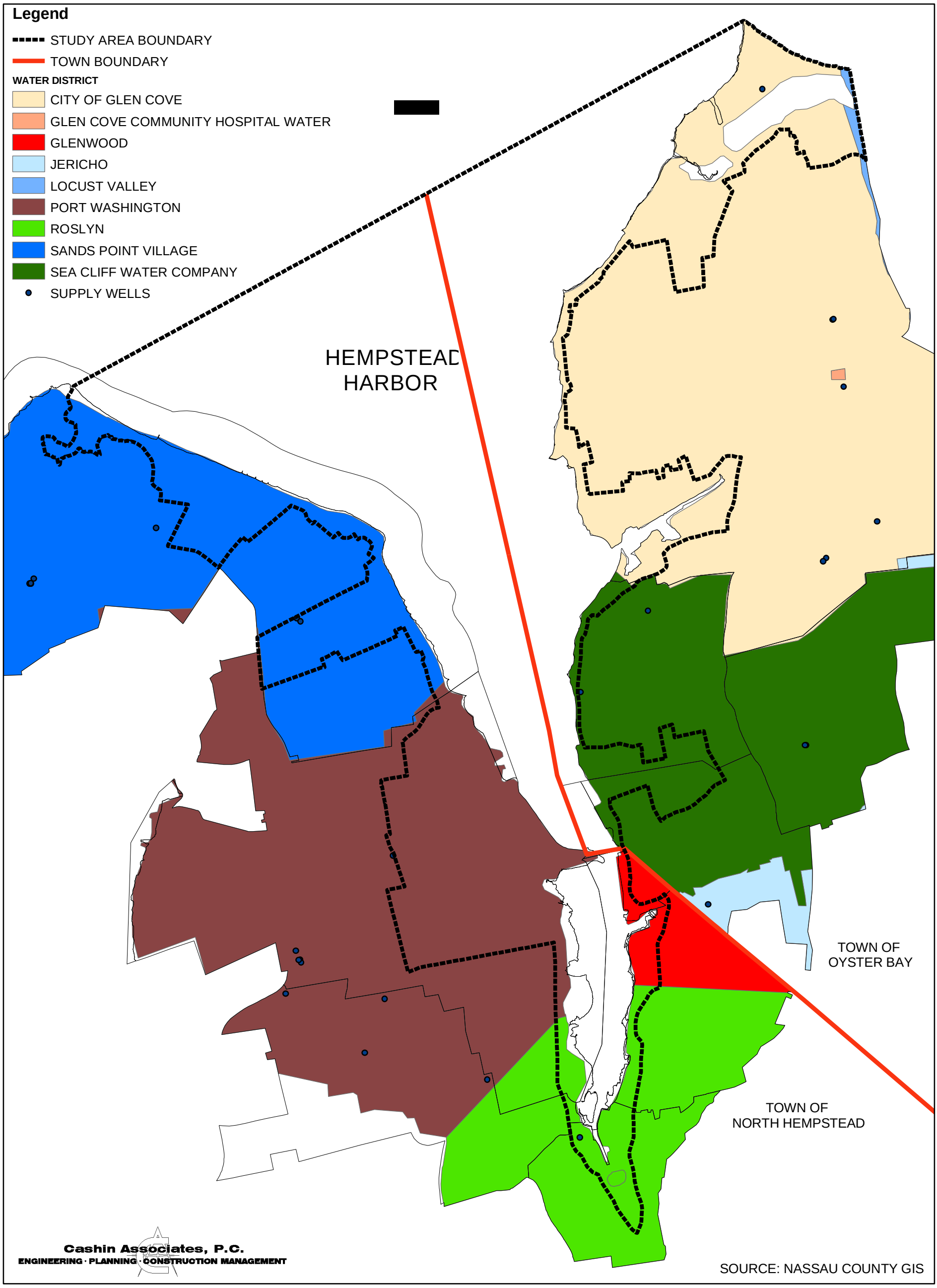
MAP 3-6A
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
EXISTING WATER USES AND SHORELINE STRUCTURES
GLEN COVE CREEK AREA



MAP 3-7
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
WATER DISTRICT BOUNDARIES



MAP 3-8
HARBOR MANAGEMENT PLAN FOR
HEMPSTEAD HARBOR
SEWER DISTRICT BOUNDARIES

Legend

STUDY AREA BOUNDARY

TOWN BOUNDARY

SEWERDISTRICT.dwg MultiPatch

Layer

GLEN COVE SEWER DISTRICT

PORT WASHINGTON SEWER DISTRICT

ROSLYN SEWER DISTRICT

GLEN COVE NOT SERVED
NOT SERVED BY MUNICIPAL
SANITARY SEWERS

THE GLEN COVE SEWAGE TREATMENT PLANT ALSO SERVES SEACLIFF VILLAGE BEACH AND APPROXIMATELY NINE HOMES AT THE NORTH END OF THE VILLAGE AS WELL AS APPROXIM

HEMPSTEAD
HARBOR

TOWN OF
OYSTER BAY

TOWN OF
NORTH HEMPSTEAD

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AUGUST 2004

SOURCE: SPECIAL DISTRICTS AND SERVICE AREAS: NASSAU COUNTY PLANNING COMMISSION, DECEMBER 1984

0 0.4 0.8 1.6 2.4 3.2 Miles

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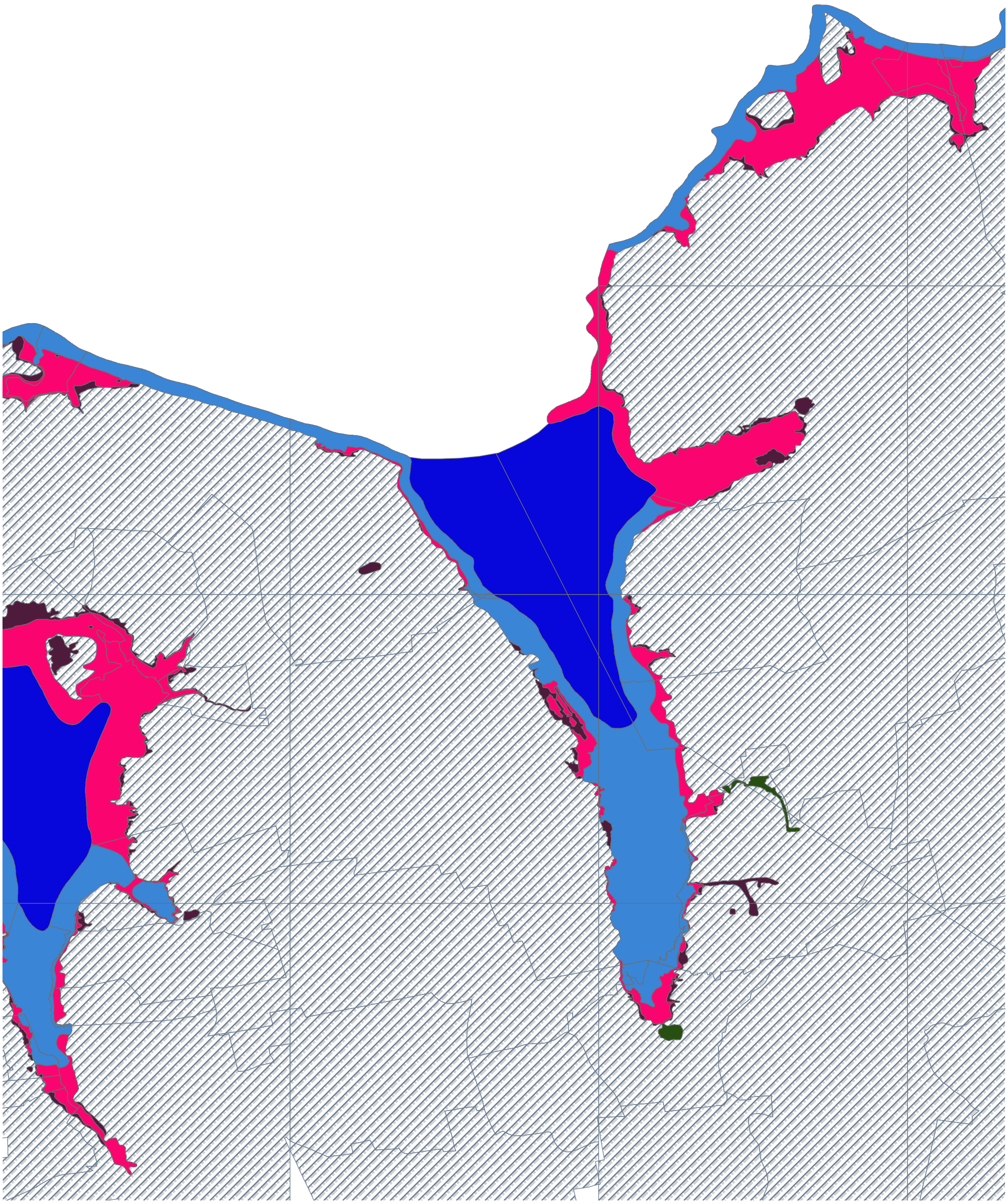

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CHAPTER 4

QUALITY COMMUNITIES SITE INVESTIGATIONS

Inventory of the Conditions, Constraints, and Opportunities of
Specific Properties
Subject to Potential Future Redevelopment and Revitalization
Along the Hempstead Harbor Shoreline

4.1 Introduction

This section of the *Harbor Management Plan for Hempstead Harbor* (HMP) involves a more focused, site and area-specific investigation of a number of key properties and parcel clusters located within the HMP Study Area. The 21 properties selected for this investigation were chosen based on the information and findings generated through the HMP planning process which involved a public meeting; the development, distribution, and interpretation of a public survey; and input received at Hempstead Harbor Protection Committee (HHPC) meetings. The properties under consideration vary in their size, physical setting, and environmental conditions and range from brownfields, active industrial or heavy commercial facilities, to vacant or underutilized properties. Despite any disparity in the use and character of these sites, each is integrally connected to the Hempstead Harbor waterfront and the coastal communities in which they are situated. As such, the future redevelopment of these properties will contribute to the general subsistence and well-being of the HMP district and its respective harbor-side communities. Whether future development translates to an improvement or deterioration of a site or community will depend, in part, on the quality of private and public planning initiatives; identification of the land use and developmental needs of the community; the compatibility and relative costs and benefits of proposed development; the vision of the property owner and the citizenry; the degree of impact or improvement to public health and environmental protection; and the general impact the changes will have on the quality of life in the area.

Map 4-1 shows the location of the 21 parcels that were included in the Quality Communities investigation for Hempstead Harbor. As illustrated on this map, these properties are concentrated in four discrete locations in the HMP area: the Port Washington Area (sand and gravel operations, two parcels of vacant waterfront land, and vacant, publicly-owned site on the former Morewood property); lower harbor area (Flower Hill nursery/garden center, Bryant Landing, and vacant, publicly-owned site in Flower Hill); Glenwood Landing (Shore Realty, Hin Fin, Glen Marine, Gladsky marine salvage yard, Keyspan properties, and Capobianco property); and Glen Cove Creek

(Captain's Cove, three parcels comprising the Li Tungsten site, Mattiace property, Doxey property, former Gladsky site, and Sea Isle property).

4.1.1 Purpose and Objectives of the Quality Communities Program

This Quality Communities study was commissioned by the HHPC through a Quality Communities Demonstration Program Grant administered by the State's Quality Communities Interagency Task Force, headed by New York State's Lieutenant Governor. The Quality Communities Program was created to promote and effectuate various planning objectives designed to improve the quality of life and sustainability of the State of New York's communities and to help ensure that future development proceeds in a manner that is beneficial to the citizenry.

The primary objectives of the Quality Communities Program are to:

- physically and economically revitalize central cities, central business districts, main streets, and small communities;
- promote sustainable economic growth;
- ensure the implementation of suitable land development practices and policies which support smart growth principles;
- preserve open spaces and protect the integrity of natural resources, including farmland;
- improve the quality of life and livability of communities and neighborhoods;
- develop sustainable transportation facilities and multi-modal networks and provide diverse transportation choices where possible, without jeopardizing community character; and
- forge partnerships between governmental agencies.

Although the Hempstead Harbor Quality Communities evaluation focuses specifically on individual properties or tracts of land containing clusters of lots, it is essential nevertheless, to consider these sites and parcel clusters both individually and in context with the surrounding community, in terms of the general physical, environmental, social, and economic setting in which they occur. This involves a review of both the regional context (e.g., the entire Hempstead Harbor shoreline) and local setting (e.g., the neighborhood, village or hamlet level) and includes focusing on current zoning and existing land use; transportation systems; scenic, cultural, historic, and recreational conditions; community character and aesthetics; scale and density of growth; and the general needs and vision of the community.

In many area hamlets and municipalities, extensive study and public outreach has already (recently) occurred. These activities have provided a wealth of information and a

framework upon which the recommendations of this section of the report are based. These recommendations, and the projects, strategies, and initiatives that will effectuate them, can be broadened or enhanced, new recommendations can be devised, and site-specific plans can be viewed from a more holistic standpoint.

4.1.2 Study Methodology

After the sites of interest were identified by the HHPC for further investigation, a comprehensive information gathering phase was initiated. A wealth of information is available that describes these properties, and specific recommendations for the future use, development, or preservation of many may sites can be found in various municipal plans. The following plans, studies, and reports were reviewed for this assessment and have particular relevance and significance in instituting a Quality Communities strategy for the Hempstead Harbor area:

- Glen Cove Creek Revitalization Plan (1996)
- Draft Environmental Impact Statement for the Proposed Rezoning of Glen Cove Creek (1998)
- Sea Cliff Shoreline Study (1996)
- Glenwood Landing Waterfront Redevelopment and Revitalization Plan (GLWRR Plan) (2002)
- Water Quality Improvement Plan for Hempstead Harbor (1998)
- Harbor Management Plan for Hempstead Harbor, comprising the remaining chapters of the present report
- Roslyn Viaduct Study (1997)
- Forest City Daly Housing Draft Environmental Impact Statement (1998)
- Village of Roslyn Comprehensive Plan (1996)
- Draft Village of Roslyn Waterfront Enhancement Strategy (January 2003)
- Hempstead Harbor Shoreline Trail (1997)
- Town of North Hempstead Master Plan (1989)
- Municipal, County, and State agency files which contain approved site plans, subdivision maps, site surveys, deeds, copies of filed easements and covenants and restrictions, open space dedications, performance/maintenance bond documents, and environmental assessment and cleanup reports
- Municipal zoning laws

In addition to the input provided by many of the aforementioned studies, the public participation campaign for the Hempstead Harbor HMP, and the administration of the *Harbor Management Plan and Quality Communities Demonstration Project Public Survey*, field investigations were conducted to determine, verify, or update actual conditions on or adjacent to the targeted sites.

4.2 Quality Community Site Investigations

The properties reviewed for this investigation include:

- a cluster of lots along the north shore of Glen Cove Creek and a small sandy peninsula located at the southwest end of the Creek;
- vacant, as well as improved and operating industrial sites located along the Glenwood Landing/Hempstead Harbor shoreline in the Town of Oyster Bay;
- land situated west of Shore Road along the Hempstead Harbor shoreline and immediately north of Mott's Cove in the Glenwood Landing section of the Town of North Hempstead;
- a large tract of vacant property on the east side and a small parcel on the west side of lower Hempstead Harbor in the Village of Roslyn;
- one small lot situated on the harbor shoreline in the Village of Flower Hill; and
- a publicly-owned lot situated on the west side of West Shore Road and three vacant lots and an operating sand and gravel holding and distribution site on the east side of West Shore Road in the Port Washington section of North Hempstead.

Map 4-1 depicts the locations of the parcels inventoried for the Quality Communities study. Each site shown on the map has been assigned a number. These numbers correspond to the site-specific discussions (site numbers) referenced in the following text.

A synopsis of the findings of the Quality Communities Site Investigations and Inventories is presented below. Each section begins with a general description of the conditions and physical and environmental setting of the area in which the Quality Communities property is located. This general discussion, subtitled *Setting*, places the Quality Communities lots in their respective geographic context and environment along the Hempstead Harbor shoreline. A more in-depth discussion of site-specific conditions and property histories follows the *Setting* dialogue.

4.3 Findings

4.3.1 City of Glen Cove

Setting

Eight individual parcels located along Glen Cove Creek were selected for additional in-depth review under the Quality Communities initiative. These parcels consist of both public and private land, and in some cases multiple lots are held in common ownership.

Where several commonly owned tax lots abut one another, they are considered collectively as one site. Seven of these parcels are located on the north side of the creek and are clustered within a large tract of land comprising the Garvies Point Urban Renewal Area. The eighth parcel is a sandy dredge spoil site which juts into the mouth of Glen Cove Creek from its southwest shore. With the exception of the last parcel, the remainder of sites consists primarily of brownfields or active industrial facilities. The targeted properties specifically include, on the north side of Glen Cove Creek: 1) land located along Herbhill Road, Garvies Point Road and the south end of Dickson Street, and 2) undeveloped privately-owned parcel located on the south side of the mouth of the Creek commonly known as "Sea Isle Marina".

The general character and land use within this area is inextricably tied to its urban waterfront surroundings. Existing land use in and around the Glen Cove Creek area consists primarily of:

- intensive industrial operations;
- marine commercial activities;
- general business development;
- municipal solid waste transfer station and wastewater treatment facilities;
- a few large, vacant brownfields;
- Garvies Point County Nature Preserve;
- Pratt Park/Mill Pond, situated east of Charles Street near the headwaters of the Glen Cove Creek;
- small but densely-developed duplex development situated along Janet Lane;
- a privately-owned, undeveloped parcel on the southwest side of the Creek;
- two marinas and a restaurant;
- a public bicycle/pedestrian esplanade on the north side of Glen Cove Creek; and
- single-family residential development on high slopes overlooking the south side of Glen Cove Creek.

The area along Glen Cove Creek that is specifically targeted for this investigation consists largely of land zoned for marine-waterfront purposes, although property in the general area is also zoned for industrial and residential purposes. The creek's shoreline is protected by bulkheading, including portions that are deteriorated, and small areas of narrow intertidal marshlands, sandbars, shoals and mudflats which fringe the creek in various locations (including the Sea Isle property).

A spur of the Hempstead Harbor federal navigation channel runs down the entire length of Glen Cove Creek. The channel varies in width from 100 feet near the mouth of the creek to the Doxey property (NCTM parcel 21-A-114) and 50 feet from the Doxey site, inland to Charles Street. There are many docking structures, particularly along the

southwest end of the creek, and a large vessel mooring area is located just outside its mouth in Hempstead Harbor.

The topography in the immediate vicinity of Glen Cove Creek generally is flat or gently sloping and descends to sea level at the creek. However, steep slopes dramatically ascend to the north and southwest within a quarter- to a half-mile of the creek, where the land surface quickly rises to elevations in excess of 100 feet. The low-lying areas adjoining Glen Cove Creek are within the 100-year floodplain as determined by Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). The depth to groundwater near the creek is quite shallow based on surface topography adjacent to the creek and the presence of the nearby water bodies.

Land within the area of investigation falls within the jurisdiction of the City of Glen Cove's water and sewer departments, and natural gas is also available in the area. Traffic in the vicinity of the creek consists largely of heavy truck traffic to industrial, heavy commercial, and institutional facilities, but also includes light residential and commercial traffic and deliveries to general retail and service establishments in the area.

Site 1: *Captain's Cove*

This property is located on the north side of Glen Cove Creek and south side of Garvies Point Road in the City of Glen Cove and is identified as Nassau County tax map (NCTM) parcel 21-259-1. The property consists of a total of 23.34 acres, has over 2,000 linear feet of shoreline, and is zoned for marine waterfront purposes. The east and west ends of the property's shoreline are bulkheaded and the unprotected portion of the shorefront has been carved landward in a semi-circle, creating a broad, shallow cove near the center of the property. The site is, for the most part, devoid of vegetation, and the topography is flat to gently sloping. This property, now remediated, was used in the 1960s and early 1970s as an unofficial City landfill. The entire property is situated within the FEMA FIRM's 100-year floodplain and, therefore, may be inundated on average by a storm of such intensity as is expected to occur once every 100 years or which has a one percent chance of occurring in any given year. Garvies Road comprises the northern boundary of the property. The site is improved with a temporary (currently inactive) ferry terminal, access road and pedestrian/bicycle esplanade along the water's edge.

Plans to develop the site with a 238-unit condominium complex were submitted in 1981 after Village Green Realty purchased the site from the Glen Cove Community Development Agency. Construction commenced during 1984-1985, but was halted after routine tests indicated the presence of arsenic, barium, cadmium, chromium, lead, mercury and silver at levels exceeding safe limits. The site is now listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites. It was also discovered

that the site was used as a deposit area for tungsten ore by the Li Tungsten Corporation operations conducted nearby. In 1996, the United States Environmental Protection Agency (USEPA) agreed to remediate the site as part of the Li Tungsten clean up project, instead of listing the parcel as a single and separate site.

The City of Glen Cove agreed to clean up the property and entered into an Order on Consent with NYSDEC in 1997. The City commissioned a Remedial Investigation/ Feasibility Study (RI/FS), which was prepared by Roux, Inc./ Remedial Engineering with 75 percent of the design cost paid for by NYSDEC. In 1999, the City selected a remedy that was approved by NYSDEC. The remedy consisted of the first landfill reclamation project approved by the NYSDEC in New York State. The property was excavated, soil was screened and the material was tested. Material that failed NYSDEC clean up criteria was trucked to an approved landfill for disposal. Clean soil was used as backfill. Additional clean fill was trucked in and used as backfill as well as cover material. The remediation of Captain's Cove was completed in September 2001.

Prior to remediation and after completion of the RI/FS, the Captain's Cove site was purchased by the Glen Cove Industrial Development Agency in November 1999 as part of the Glen Cove Creek Waterfront Revitalization Plan with an U.S. Environmental Protection Agency (EPA) prospective purchaser's agreement. The property was purchased from the State of Maryland Deposit Insurance Company, which insured the mortgage on the property. For years, the empty condominium shells remained as an eyesore along the waterfront until finally being demolished and removed in April 1999.

In addition to the NYS Superfund cleanup, the Captain's Cove property included two areas that were part of the Federal Superfund site known as Areas A and Area G. In 2000, the City of Glen Cove entered into an agreement with EPA for the excavation of Captain's Cove. This agreement was for the City to contribute to the cost of excavation as part of its obligation as a potentially responsible party (PRP). The soil was excavated, tested, and stockpiled in accordance with contamination levels. Soils that meet EPA's cleanup criteria were used as backfill. Soils contaminated by radioactivity were stockpiled for later disposal. Soils contaminated with other constituents (e.g., heavy metals) were stockpiled separately for future removal and proper disposal. Clean fill was truck in and used as backfill and cover material. By June 2003, the USEPA excavation of the site had been completed.

In October 2003, the City along with three Federal Agencies that are PRP's and a private PRP settled with the EPA and will fund the disposal of all the radioactive material and co-located contaminated soil that had been excavated. This final phase of Captain's Cove should be started in the first quarter of 2004 and completed by the third quarter of 2004. Captain's Cove will be delisted as soon as the radioactive residues are shipped out of

state. The EPA plans to have the Army Corps of Engineers handle the disposal process that will take place in the beginning of 2004.

As of June 2003, the Captain's Cove site has been totally excavated and the Glen Cove Industrial Development Agency has signed a Land Development Agreement with Glen Isle Developers, LLC. This site is marked for development of a hotel and conference center. The first phase of the Glen Cove Esplanade has also been constructed on this property and will continue along Glen Cove Creek to Mill Pond. Reconstructed on the Esplanade is the Regina Maris, a 1914, 144-foot barkentine that sank in the Glen Cove Creek after being moved from Greenport, Long Island. The Long Island Carpenters Union Apprentice Program donated the labor for the partial reconstruction of the Regina Maris on land.

Site 2: ***Former Gladsky Site***

The former Gladsky site occupies approximately one acre of land on the north side of Glen Cove Creek and is owned by the Glen Cove Community Development Agency. Previously, the site had been leased from the City and used for a marine salvage operation by Gladsky Marine, but this use was eventually discontinued and relocated to the Glenwood Landing section of the Town of Oyster Bay where it has been operating since 2001. The former Gladsky property is now vacant awaiting remediation. The Glen Cove Community Development Agency also owns the adjacent property to the west, which is leased by the Anglers Club. Both properties have gone through Phase I and Phase II Environmental Site Assessments. The two lots combined create a long, narrow tract of land comprising roughly 1.9 acres which accommodates dockage facilities, a small clubhouse, and a boat storage area along its west end. The land is zoned for marine waterfront uses and is situated within the City of Glen Cove's water and sewer districts. The Community Development Agency is seeking EPA Brownfields funding to remediate some soils with elevated levels of contamination.

Site 3: ***Mattiace Petrochemical Company, Inc.***

The Mattiace Petrochemical Company is an inactive chemical distribution facility that operated north of Garvies Point Road on NCTM parcel 21-A-545 in the City of Glen Cove. The site is roughly 1.7 acres in area and is included on the Federal Superfund List. From the mid-1960s to 1987, this facility received chemicals via tank truck deliveries, which were redistributed to its customers. The M & M Drum Cleaning Company also operated at this site until 1982. In 1980, NYSDEC discovered that drums containing volatile organic compounds (VOCs) had been buried on site and that wastewater from drum cleaning operations was being discharged into subsurface leaching pools. VOCs have been found in soil and shallow groundwater. The property was obtained by the

State in 1987 and subsequently listed on the National Priorities List (NPL) in 1989. The United States Environmental Protection Agency (EPA) is funding the clean up of the site, which reportedly is significantly contaminated with chemicals. The EPA has removed more than 120,000 gallons of bulk or waste liquids from the site. The primary threat to the harbor from this contamination is through stormwater runoff.

Two Remedial Investigation/Feasibility Studies (RI/FS) and a Record of Decision (ROD) have been completed for the site. The RI/FS determines the nature and extent of contamination. Responsible agencies then distribute a description of the preferred remedy to the public after the completion and circulation of the final RI/FS reports. Following a public comment period, a ROD is issued, describing the selected remedy of the site. The remedy that is eventually selected may or may not be the same as the preferred remedy.

A remedial action completed in late 1996 included the removal of all site structures, underground storage tanks, associated piping, and other buried structures. Final remedial design was completed and soil and groundwater remediation units were constructed. The selected site remedy also included: the removal of floating product from the upper surface of the groundwater; the demolition and disposal of site structures; in-situ excavation of pesticide-contaminated hot spots; and extraction and treatment of contaminated groundwater by means of a pump and treat system.

The site is largely surrounded by active and inactive industrial operations. A small residential neighborhood of duplex housing is located approximately 400 feet to the north of the site, along Janet Lane.

Sites 4, 5, and 6: *Li Tungsten*

The Li Tungsten property consists of several tax lots comprising three distinct tracts of land totaling approximately 26 acres. The three tracts consist of: 1) several clustered tax lots located north of Garvies Road, south of Janet Lane, and west of Dickson Lane (Site 4, also identified by the EPA as Li Tungsten "Parcel C"); 2) one 4.5-acre lot located on the northeast corner of the intersection of Dickson Lane and Herbhill Road (Site 5, also identified by the EPA as Li Tungsten "Parcel B"; and 3) several contiguous tax lots located on the south side of Herbhill Road along the Glen Cove Creek waterfront (Site 6, also identified by the EPA as Li Tungsten "Parcel A").

Parcel C (Site 4) contains two vacant and deteriorating industrial buildings. Slopes dip steeply to the south in the area.

Parcel B (Site 5) (NCTM Parcel 31-G-311) is a vacant, rectangular, 4.5-acre lot located on the northeast corner of the intersection of Herbhill Road and Dickson Lane. The south end of the property lies at the base of a steep slope, which dips from the northern uplands. The south end of the property had been cleared and currently is vegetated with successional old field vegetation, while most of the property (the north end) has many mature trees. Soils on-site are identified by the *Soil Survey of Nassau County, New York* (1987) as "Urban Land" on the south end of the property and "Urban Land-Montauk Complex, 3 to 8 percent slopes" on the remainder of the site. The Urban Land soils comprise those areas with at least 85 percent impervious land cover. The Urban Land-Montauk soils are found in urban areas and are considered to be deep and very well drained. The area is likely to serve as a sink for upgradient stormwater runoff.

Parcel A (Site 6) is the waterfront portion of the property, located south of Herbhill Road, east of Garvies Point Road, and west of Charles Street. This parcel is the former site of the industrial facility and is currently is zoned for waterfront marine purposes. Soils at the site were identified as "Udorthents, refuse substratum" and "Urban Land" which indicate that significant disturbance has occurred, including construction of impervious ground cover. Vegetation is quite sparse on this parcel and slopes are essentially flat to gently sloping. An area of standing water was noted during a field investigation in what appeared to be the remains of a building foundation. This standing water seemingly suggests a relatively high groundwater table in the area, as may be expected adjacent in an area lying to the Glen Cove Creek. Topography on the inland portion of the site dips more steeply.

The Li Tungsten property was once occupied by a coal and lumberyard (during the late 1800's). During the early 1900s the Ladew Leather Belting Company owned the property.

The National Reconditioning Company constructed a tungsten processing facility on the site in 1942. The facility was also known as Wah Chang Smelting and Refining and also as Li Tungsten. Site operations involved the processing of ore and scrap tungsten concentrates to ammonium paratungstate, and subsequently formulating metal tungsten powder and tungsten carbide powder. This facility held SPDES permit # NY0008249, which expired in 1987. This permit conditionally allowed treated wastewater to be discharged to Glen Cove Creek, as well as two additional discharge points for non-contact cooling water.

Li Tungsten declared bankruptcy in the early 1980s, shuttering and abandoning the manufacturing facility. The Glen Cove Development Corporation (GCDC) purchased the property in 1984 for residential development purposes. The GCDC performed initial clean up activities in 1988, which included the removal of two tanks, one truck, over one

hundred drums and identifiable lab chemicals, as well as the installation of thirteen additional monitoring wells. Sampling at ten existing monitoring wells identified four plumes of contaminated groundwater containing an assortment of contaminants (chlorides, sulfates, lead, cadmium, tungsten, chromium, arsenic, barium, silver and polychlorinated biphenyls). Interim remedial activities also revealed the presence of extensive landfill waste.

The Li Tungsten property has been listed on the NPL since 1992. The NPL site includes Parcels A, B, and C, as well as two distinct sections of the nearby Captain's Cove property identified as Area A and Area G. Areas A and G at Captain's Cove were linked to the Li Tungsten Superfund site because tungsten ore tailings from the Li Tungsten plant were dumped there.

The EPA commenced a removal action on Li Tungsten Parcel A in order to stabilize the site and ensure worker safety. The EPA completed a Remedial Investigation/Feasibility Study, issued a Record of Decision, and completed remediation of Parcel A and the lower portion of Parcel C. The Glen Cove Industrial Development Agency (IDA) acquired all three Li Tungsten parcels in 1999.

The City of Glen Cove agreed to contribute to its share of the remediation costs (as a potentially responsible party "PRP") for the Li Tungsten site by contracting with the EPA to excavate the tungsten ore tailings located at the Captain's Cove site. Recently the City settled its liability along with the federal PRPs and some private PRPs. The total settlement reached was approximately $30 million, which is earmarked for the disposal of the radioactive materials and remediation of the site.

The IDA signed a Land Development Agreement with Glen Isle Development, LLC in February 2003, for 46 acres of waterfront development. The project will consist of a hotel and conference center, retail shops, restaurants, residential units, offices, cultural attractions, and a public walkway.

Site 7: *Doxey Site*

The Doxey site (NCTM parcel 21-A-114) occupies 0.64 acre on the north side of Glen Cove Creek, immediately east of the former Gladsky parcel and west of the Li Tungsten property. This privately owned facility is currently being used for salvage operations, and is zoned for marine waterfront uses. According to FEMA FIRMs, the land is situated entirely within the 100-year floodplain, as is the case with all lots immediately abutting Glen Cove Creek. Previously, the site was operated as a petroleum storage facility and the property still contains three large aboveground fuel storage tanks. The City is

working with the owner to relocate this operation to another suitable site, in order to free up this parcel for redevelopment as part of *The Glen Cove Creek Revitalization Plan*.

Site 8: *Sea Isle Marina Property*

The Sea Isle Marina property comprises a total of 6 acres on the south side of the mouth of Glen Cove Creek. The property, identified as NCTM parcel 21-A-25, is privately owned and is zoned for marine waterfront (MW-2) uses. The *Soil Survey of Nassau County, New York* describes the western half of this property as "beach" and the eastern half as "Urban Land-Udipsamments, wet substratum complex" (sandy dredge material), which has been deposited in an area that was once occupied by a portion of the original (natural) Glen Cove Creek channel. The underlying soil substratum consists of organic tidal marsh deposits. The site occupies a small peninsula and the topography on the site is flat to gently sloping. Much of the vegetation on the property has been disturbed and is indicative of early succession, particularly along the perimeter of the site; while the south-central portion of the property contains somewhat more mature vegetation. Elevations at the site range from slightly below mean sea level to approximately 14 feet above mean sea level. A bulkhead that was once used to stabilize the banks of the channel stands entirely within the water on the north side of the peninsula, is severely eroded, and no longer serves its original purpose.

This site has been the focus of much debate in recent years. The prospective developer has applied to the Glen Cove Planning Board for a site plan and special use permit to construct condominium units. The applicant prepared a draft environmental impact statement for this project, which includes a 36-unit condominium or, alternatively, a reduced-density 22-unit complex. The proposed plan also includes provisions for public waterfront access. The proposal is currently being opposed by some of the neighboring property owners as well as other groups and agencies. There is an open issue regarding the owner's title to the site. The Sea Isle peninsula was originally part of a sand bar that extended from the north side of the mouth of the Creek. The U.S. Army Corps of Engineers altered the area in the 1930s in order to provide a more direct line of access for moving cargo to and from the creek. The original peninsula was severed to create a small island just south of the creek's mouth. In the early 1960s, the area was filled in on the southern margin near Shore Road in order to provide access to a previous use (the former Ark Floating Restaurant). After the site was abandoned, the area became overgrown with successional growth and invasive species. The land fillings were never filed with the City of Glen Cove and have been challenged numerous times over the years.

4.3.2 Town of Oyster Bay/Hamlet of Glenwood Landing

Setting

The properties of interest within the Glenwood Landing section of the Town of Oyster Bay are situated along both sides of Shore Road. This area was recently part of a comprehensive redevelopment and revitalization planning project commissioned by the Town of Oyster Bay. The area consists of several vacant waterfront lots, Tappen Beach Park, which straddles the Town of Oyster Bay/Village of Sea Cliff municipal boundary, a private country club, the recently constructed KeySpan gas turbine power generating facility, an Exxon-Mobil tank farm and associated waterside fuel offloading facility, a marine salvage operation, and some small neighborhood businesses near the west end of Glenwood Road. The GLWRR Plan (October 2002) recommended the rezoning of many lots within the area from Light Industry to waterfront commercial and rezoning of residentially-zoned land to lower the potential density of single-family homes on large tracts of land. These zoning recommendations were adopted by the Oyster Bay Town Board in January 2004. The GLWRR Plan also recommends a variety of streetscape improvements along both Shore Road and the west end of Glenwood Road.

The Glenwood Landing area is not currently serviced by a municipal sewerage facility, so sewage disposal occurs via on-site sanitary waste disposal systems. The Town has recently made improvements to the Tappen Beach Park, and has completed development of a small vest-pocket waterfront park located at the intersection of Glenwood Road and Shore Road (Powerhouse Park). KeySpan recently expanded its power generating facility including the construction of two new gas turbine plants on the east side of Shore Road. Although these features detract from the visual quality of the area, a brick wall was constructed along the frontage of the property which greatly improved appearances. The section of Shore Road which passes the lots under investigation, contains two lanes of traffic in both the north and southbound directions.

Site 9*: KeySpan/LIPA*

KeySpan owns several parcels of land within the study area, three of which have been targeted for additional review pursuant to this Quality Communities investigation. The three contiguous parcels identified as Site 9 include Section 21, Block F, Lots 4, 9, and 1947.

Lots 4 and 9 are abutting upland parcels situated near the Hempstead Harbor shoreline, on the west side of Shore Road, between Tappen Beach and the Gladsky property. Lot 1947 is situated to the west of Lots 4 and 9, and is shown on the tax maps as comprising

underwater land, but has since been bulkheaded and backfilled and now consists of uplands. The three lots have a combined total land area of 7.92 acres.

Lot 9 and the northern portion of Lot 1947 are somewhat unique as they contain a small tidal pond. Recent remedial action on this parcel resulted in the clearing of nearly every tree, the forest understory, and its ground cover. The tidal pond has been retained, and currently is protected along its upland edge by a stone wall and silt fencing.

The parcel comprising Lot 4 and the southern portion of Lot 1947 is generally flat and has been cleared of its vegetation. This site was formerly known as the "KeySpan propane facility", which was used by KeySpan to store propane for use during very cold days to supplement fuel supplies to customers. The former liquid propane gas processing plant and propane storage tank farm has been decommissioned and all of the former underground storage tanks have been removed, reclaimed, and sold for use elsewhere. A remedial action was undertaken by KeySpan Energy Corporation (KeySpan) on this property under the provisions of NYSDEC's Voluntary Cleanup Program (VCP). In September of 2001, KeySpan submitted a Final Site Investigation Report to NYSDEC which assessed the environmental impacts of the previous use and on-site activities and recommended a series of responses to address any on-site environmental degradation. This cleanup has been completed and, according to KeySpan officials, consisted of the removal and proper disposal of some contaminated soil and the placement of an impervious soil cap over the upland portion of the site. The future use of this land is restricted to recreation and open space, pursuant to the institutional controls set forth by the NYSDEC as part of the VCP.

All three of the aforementioned KeSpan-owned parcels were rezoned, via action by the Oyster Bay Town Board in January 2004, from light industrial to Waterfront-A. This new zoning designation focuses on water-dependent uses and support facilities directed at advancing revitalization of the Glenwood Landing waterfront and promoting use of the harbor for appropriate commercial and recreational purposes.

Site 10: *New Gladsky Property*

The tax lots identified as Section 21, Block F, Lots 3 and 1977 comprise two contiguous parcels owned and leased to John Gladsky by Glen Marine, and hereafter referred to as the "new Gladsky property". The two adjacent parcels are situated west of Shore Road between property owned by KeySpan, to the north, and property owned by Exxon-Mobil to the south. Lot 3 is primarily an upland parcel with a small area containing underwater lands created by bank erosion and the receding shoreline along its northwestern side. Lot 1977 consists entirely of underwater lands. The two lots have a combined total acreage of approximately 2.2 acres, with roughly 1.5 acres of upland area.

A steel bulkhead has been installed along the northern border of the underwater lands (Lot 1977) and along the southwest boundary of Lot 3. A walkway leads from the uplands portion of the parcel, down to a few floating docks situated along the shoreline. These docks provide several boat slips. The site contains a variety of heavy equipment, machinery, supplies, and materials recovered or otherwise associated with a marine salvage operation. Several boats, including a tug boat and two barges, were docked along the shoreline during an onsite investigation conducted in the summer of 2001, although a significant amount of equipment and salvage items also are present. Lot 3 is generally devoid of its natural vegetation, with some invasive viney species and native trees and shrubs along the northern, southern, and eastern perimeter. The soils on-site consist of sandy and gravely dredge deposits and gently sloping topography with a small low bluff situated along the southwestern boundary of the property near the shoreline. A chain-link fence and locking gate have been provided along the frontage of the upland property and an opaque screen has been installed over the fencing.

A small amount of sedimentation has occurred along the northwestern boundary of the upland parcel— apparently from stormwater runoff from the adjacent parcel to the north and, perhaps to a lesser extent, due to the ongoing groundwater seepage from the low upland bank leading to the harbor.

A ferry terminal was proposed at this location in the recent past; however, the application was withdrawn due to significant public outcry based largely on the belief that traffic impacts associated with the ferry operation would adversely affect the area. Subsequently, a site plan for the proposed marine salvage and marina facility was submitted to the Town of Oyster Bay, prior to the adoption of the moratorium on the issuance of building permits in association with the now-completed Waterfront Redevelopment and Revitalization Plan. The proposed site plan includes a one-story 700-square foot office and storage building; 30-space parking lot; 21-slip marina (over the northern half of the underwater lands); 6-foot wide timber walkway along the western edge of the upland portion of the property; extension of the steel bulkheading along the northern and western shoreline; outdoor material, equipment, and machinery storage area (on the southern half of the upland parcel); and landscaping along the parcel's street frontage.

Site 11: *Glen Marine*

The Glen Marine property is a rectangular, 1.82-acre vacant lot located on the east side of Shore Road. The property is situated between a KeySpan power generating facility to the north and an Exxon-Mobil tank farm to the south and east. The land is essentially devoid of vegetation, is relatively flat and has, over 300 feet of frontage along the east side of

Shore Road facing Hempstead Harbor. The soils are described by the *Soil Survey of Nassau County, New York* as "Urban Land-Udipsamments, wet substratum". In accordance with the recommendation of the Glenwood Landing Waterfront Redevelopment and Revitalization Plan (GLWRR Plan), this parcel was rezoned from Light Industry to a Waterfront-B zoning designation, which permits and promotes a mix of water-enhanced commercial development, neighborhood commercial and recreational land uses.

Prior to the adoption of the GLWRR Plan, a site plan application was submitted to the Town for a Jaguar automobile detailing facility on the Glen Marine site. This proposed facility is not permitted under the new zoning, although the applicant has indicated that it will be pursuing a special permit for this project under §246-5.2 of the Oyster Bay Zoning Code.

Site 12: *Construction Contractors Yard (Capobianco Property)*

This site, identified as NCTM Section 21, Block M, Lot 37, comprises a small flag lot located on the east side of Shore Road between the KeySpan property and the North Shore Country Club. The property is 0.625 acre (27,225 square feet) in area and is improved with one single-story building. The premises are used as a construction contractor's vehicle and equipment storage facility. The interior of the lot is mostly open and unvegetated to accommodate the parking of a number of construction vehicles; while the perimeter of the site consists of native plant life which provides some screening between the street and adjoining properties. This parcel was rezoned from Light Industry to the new Waterfront-B district, in accordance with the recommendation of the GLWRR Plan.

4.3.3 Town of North Hempstead/Hamlet of Glenwood Landing

Setting

The properties of interest are situated off of Scudders Lane, a short, narrow spur road which leads from Shore Road and terminates as a dead-end at the edge of Hempstead Harbor. This area is just one half mile from the other Quality Communities target properties located in the Glenwood Landing section of the Town of Oyster Bay. Motts Cove, a small arm of Hempstead Harbor, is situated just south of the parcels of interest. The general setting of these parcels is one of mixed land use. These existing land uses consist of vacant, former industry on the subject lots; residences to the north; marine commercial to the northeast and south of Motts Cove on the southwest corner of the intersection of Scudders Lane and Shore Road; and general commercial and residential development to the east. Zoning districts within the immediate area consist of industry,

residential, and business designations. An area of intertidal marsh is present along the perimeter of Motts Cove and the inactive federal navigation channel passes by this area of the harbor. The targeted sites are situated within the Glenwood Water District, but are not currently serviced by public sewerage infrastructure. The small area of interest has been the subject of significant, ongoing environmental investigation and ongoing or pending cleanup.

Site 13: *Hin Fin*

The Harbor Fuel/Hin Fin property comprises three separate tax lots on the east shore of Hempstead Harbor, directly to the north of the Shore Realty site. The inland parcel, comprising about 1.5 acres, is privately owned and has operated as a fuel distribution facility. The two waterfront parcels, each at approximately 1.25 acres, are owned by the Town of North Hempstead; the northerly one of these parcels has been leased to Harbor Fuel/Hin Fin for many years. The property is zoned for industrial use and is improved with several buildings and six large aboveground storage tanks. With the exception of some vegetation along its street frontages, the property has been cleared of vegetation. The soils on-site are identified by the *Soil Survey of Nassau County, New York* as being "Urban Land" which typically involves soils that are nearly entirely covered by concrete, asphalt, buildings, or other impervious structures. Access to the site is from a moderately-sloping, narrow, dead-end street (i.e., Scudders Lane), which intersects at a sharp bend in Shore Road. The site's shoreline is protected and retained by bulkheads.

In the late 1990s, a plan was presented to the Town of North Hempstead by B&G Development for a 60-unit condominium complex which would cover the entire four-acre site. Thereafter, a contract of sale was negotiated for the Town-owned portion of the site, with the closing contingent upon rezoning to accommodate the condominium proposal and completion of the site plan and environmental review processes. As part of the development plan, the project sponsor would undertake remediation of the entire property, and would include suitable public access to and along the waterfront. At that time, consideration was being given to using a vacant Harbor Fuel/Hin Fin property on the east side of Shore Road for subsurface sewage disposal, although further studies would be required to verify the feasibility of this approach. In the summer of 2002, the developer presented a revised plan which, although involving the same number of units, would place them in 65-foot tall buildings, as compared to the 35 feet specified in the original plan, and would give consideration to a sewer connection through Glenwood Landing and Sea Cliff to the Glen Cove wastewater treatment plant. The proposed project is undergoing review pursuant to the State Environmental Quality Review Act; a public scoping session was held in June 2003, and preparation of the Draft Environmental Impact Statement is in progress.

Site 14: *Shore Realty*

The Shore Realty property (NCTM parcel 20-A-35) is an approximately 3.2-acre, industrially-zoned site located south of Scudders Lane and north of Motts Cove. As with the Hin/Fin site, the Shore Realty property obtains its access via the west end of Scudders Lane.

Between 1939 and 1972, the bulk storage of petroleum products occurred on the Shore Realty site. One building exists on the south end of the property, and much of the southwestern portion of the land is paved. Based on review of municipal files, in 1994 two brick buildings consisting of a warehouse and an office and measuring 110 feet by 65 feet and 55 feet by 75 feet had undergone asbestos abatement and were later demolished and removed from the site. The eastern half of the site is currently undeveloped and becoming overgrown, but at one time accommodated some large above-ground storage tanks. Mattiace Petrochemical Company leased the parcel from 1974 to 1980, and used it to store various solvents. Numerous spills are reported to have occurred during Mattiace's tenancy. An establishment known as Applied Environmental Services subsequently used the site to store and mix waste solvents. Shore Realty purchased the property in 1983 for the purpose of constructing a condominium development. However, soils and groundwater at this location were found to contain high concentrations of organic compounds, and the site was placed on both the State and Federal Superfund lists. The pollution resulted in a Consent Order involving a large number of potentially responsible parties. In 1986, a NYSDEC-funded project removed 700,000 gallons of hazardous liquid waste from five large storage tanks and numerous other smaller tanks and containers on the site. A long-term remedial action commenced on the site in 1995, involving the operation of groundwater treatment and soil vapor extraction systems.

The western half of the Shore Realty property is situated within the 100-year floodplain. However, a small knoll located on the eastern portion of the site, where the aboveground storage tanks once stood, is within an X floodzone, which corresponds to higher, more-protected ground. The harbor and cove shorelines of the Shore Realty property are bulkheaded and the ground is paved down to the edge of the water. The perimeter of the parcel is fenced to prevent potential intruders from accessing the site.

4.3.4 Village of Roslyn

Setting

Roslyn is a small incorporated village located around the headwaters of Hempstead Harbor. The Village has a small central downtown district containing shops and businesses, which exude an historic charm and character. Some of the more salient

features of the area include its historic overlay district situated to the south, a commercial center with small waterfront businesses, a small industrial district (along Lumber Road), Gerry Pond Park, Silver Lake, and Roslyn Pond to the south, the historic gristmill, and the Roslyn Viaduct. The Village of Roslyn's Comprehensive Plan identified four primary goals to guide the Village's future development and redevelopment. These goals include:

- Safeguard the integrity and value of Roslyn's historic and scenic resources
- Create a cohesive waterfront that enhances the economic vitality and value of its uses, the adjacent downtown, and the Village as a whole
- Bolster the downtown's specialty niche as an historic and waterfront business center, used by residents from the region seeking one-of-a-kind small scale shops and restaurants
- Accommodate new residential development in a manner that also helps to maintain and create attractive, highly valued neighborhoods.

Site 15: *Bryant Landing/Forest City Daly Housing*

The Bryant Landing/Forest City Daly Housing (FCDH) parcel is a vacant 11.077-acre tract of land located just north of the Roslyn Viaduct on the east shore of Hempstead Harbor. This site, which had previously been occupied by various industrial uses including an asphalt plant and gasoline and bulk oil storage facility, has been vacant for approximately 15 years. The area had been used sporadically as an illegal refuse dump site. It also has been significantly disturbed by previous development which has included the construction and operation of heavy industrial facilities, removal of native vegetation, demolition and removal of structures, and disruption to soil and soil horizons. As part of the site redevelopment, FCDH is proposing to undertake the remediation of soil contamination from past uses in accordance with the Voluntary Cleanup Program Remedial Work Plan that was agreed upon by NYSDEC. Most of the property's shoreline is bulkheaded. The north end of the property is not bulkheaded and intertidal marsh parallels the creek. The existing steel bulkhead along the shoreline has become quite deteriorated. An aerial photograph taken during the year 2000 shows a pier from the northern shoreline which crosses over the intertidal marsh to the creek.

The FCDH property is currently zoned for high density waterfront residential development and is situated within the Village's "Waterfront Development Overlay District". The site is adjacent to other land zoned for residential and business purposes, mixed-use development, and the Village's Historic/Scenic Overlay District. The Village has approved the development of a senior citizen housing complex on the site. This project includes the dedication of public open space with over 1,400 linear feet of waterfront which would contain pedestrian and bicycle access, a playground, open lawns,

park benches, and shelters. The project also calls for the rehabilitation of the shoreline with rip rap and steel bulkheading and the construction of three small on-site ponds which will be used to store and recharge stormwater. The applicant recently requested an amendment to the approved site plan, which entails a reduction in the total number of units and a change in the type of some of the remaining units from assisted living to senior independent living units.

Site 16: *Village of Roslyn (NCTM Parcel 6-53-1051)*

NCTM parcel 6-53-1051 is located on the north side of the North Hempstead Turnpike viaduct, along the west shore of Hempstead Harbor in Roslyn. The property is a roughly one acre, triangular-shaped lot, which is owned by the Town of North Hempstead. The site's northern boundary coincides with the southern boundary of the Village of Flower Hill and is situated directly across the Harbor/Creek from the proposed Forest Daly Senior Citizen Housing Complex. The property is currently vacant.

4.3.5 Village of Flower Hill

Setting

The Village of Flower Hill has jurisdiction over a small tract of land situated within the Hempstead Harbor HMP's study area. This area, located between the Town of North Hempstead to the north and the Village of Roslyn to the south, includes just a few waterfront properties.

Site 17: *Flower Hill Nursery/Garden Center*

The waterfront property which was targeted for additional review under the Quality Communities portion of HMP, is identified as NCTM parcel 6-53-970. The site is 3.46 acres in area and is zoned for residential use, but is currently improved with a general business (landscape nursery garden center). The soils on-site are identified as "Plymouth-Riverhead complex, 15 to 35 percent slopes". The western half of the property is above the 100-year floodplain; however, the lower half dips moderately-to-steeply toward the Harbor and is located within a coastal high hazard zone (VE) velocity flood zone. Access to the site can be obtained from West Shore Road.

4.3.6 Town of North Hempstead, Hamlet of Port Washington

Setting

Several properties have been identified for further investigation along the west shore of Hempstead Harbor within the Hamlet of Port Washington, Town of North Hempstead. Property on the west side of West Shore Road was once used as a landfill which has since been closed. The Port Washington area, particularly on the immediate west side of West Shore Road, has also been extensively mined for sand and gravel in the past. The most conspicuous land uses identified along the west side of West Shore Road in the Port Washington include: the Harbor Links Golf Course, a new senior citizens complex, the closed landfill, a maintenance/public works garage, and a portion of Hempstead Harbor Beach County Park. Uses noted along the east side of West Shore Road in the Hamlet of Port Washington include: Bar Beach Town Park, the eastern half of Hempstead Harbor Beach County Park, the Town of North Hempstead solid waste management facility, a school bus parking depot, a sand and gravel handling and transfer facility, a small waterfront residential community (Beacon Hill Colony), a narrow stretch of vacant land, and some fringing tidal wetlands on the east side of West Shore Road. The Hempstead Harbor Shoreline Trail is being installed through the area, along the waterfront on the east side of West Shore Road, with the northernmost segment of the project already completed.

Site 18: *Port Washington (NCTM parcels 6-53-1047 and 6-53-1049)*

NCTM parcels 6-53-1047 and 6-53-1049 are contiguous privately-owned vacant lots located on the east side of West Shore Road in the Port Washington section of North Hempstead. Tax lot 6-53-1049 comprises 2.07 acres, most of which is underwater land and tax lot 6-53-1047 consists of 1.1 acres of upland. The upland lot is traversed by a U-shaped gravel driveway with access and egress on West Shore Road over adjoining properties. The Hempstead Harbor shoreline forms a small cove across the center of the easternmost parcel. The northerly and southerly shoreline of the cove are armored with rip rap and a narrow beach is located between these hardened areas. The site is vegetated primarily with early successional plant species and some limited wetland vegetation along the edge of the small cove. The property and abutting land to the north and south are zoned for residential purposes but are presently undeveloped. The "Hempstead Harbor Shoreline Trail" is proposed to be established along the Harbor shoreline on the east side of West Shore Road from the south side of Bar Beach to the northern boundary of the Village of Flower Hill. The trail would therefore have to pass through the westernmost lot (NCTM parcel 6-53-1047). The upland property is situated above FEMA's 100-year floodplain due to the slopes that rise moderately-to-steeply to the west

toward West Shore Road. According to the *Soil Survey of Nassau County, New York*, the soils are Udorthents, refuse substratum. The site previously contained abandoned barges; however, these decaying eyesores have since been removed.

Site 19: *Port Washington (NCTM parcel 6-53-1003)*

NCTM parcel 6-53-1003 is a fairly long, yet very narrow vacant piece of privately-owned land located on the east side of West Shore Road. Despite its narrowness, which severely restricts its development potential, the northernmost portion of the site contains a small "bulb" of upland which projects into the harbor. The property is zoned for single-family residential development. An intertidal marsh exists adjacent to the site, on the east, along the shore of Hempstead Harbor. Common Reed (*Phragmites australis*) is an abundant plant species at this location. The *Hempstead Harbor Shoreline Trail Design Report* recommends that the proposed trail be directed along the frontage of this property, and the central and southern portions of the site are so narrow as to be unsuitable to accommodate much else. The headwaters of a small tidal creek begins at the south side of the small jutting headland on the north end of the property and meanders easterly through an intertidal marsh before opening to Hempstead Harbor. According to the *Soil Survey of Nassau County, New York*, the soils on-site are identified as "Udorthents, refuse substratum" and are characterized as previously discussed in this report.

Site 20: *Publicly-Owned property (NCTM parcel 6-53-1063)*

This Town-owned property is located on the west side of West Shore Road along the north side of the access street to Harbor Links Golf Course in Port Washington. The site has been significantly disturbed, both in terms of its cleared vegetation and its highly disturbed soils which include both shallow holes and depressions and several mounds of dirt. A couple small areas of shallow standing water were also noted during an early April of 2003 field investigation.

Site 21: *Port Washington Waterfront Sand and Gravel Operation*

A major sand and gravel operation is located on the east side of West Shore Road, north of the Hempstead Harbor Beach County Park, and south of a small residential neighborhood known as Beacon Hill Colony. The subject property consists of a long, narrow 3.02-acre strip of land situated along the Hempstead Harbor waterfront. The site is currently occupied by Buchanan Marine (Port Washington Terminal) and Bay Aggregates, which together are suppliers of various construction materials such as sand, gravel, stone, brick, and cement. The land is zoned for residential use and is currently serving as a transfer facility for sand and gravel which is shipped-in by barge and taken away by truck for use at construction sites. From the 1920s to 1935, the site

accommodated the O'Brien tug boat operation, where tugs, wooden scows, and barges were repaired, but since that time the site has been used for sand and gravel operations. The property has a long, bulkheaded shoreline and extensive road frontage and contains various structures including several buildings, sand hoppers, a few large concrete block retaining structures to confine earth materials, and some dilapidated piers off of the south end of the property. Docking area is also available on the south side of the site. Soils on-site include Urban Land (Ug) on the southern half and Urban Land-Udipsamments, Complex (Uu) on the northern half. The property is essentially devoid of vegetation.

4.4 Conclusions and Recommendations

Based on the field reconnaissance, a comprehensive literature review, input from HHPC members, public outreach, and municipal file investigations, the following general recommendations are offered for promoting Quality Communities objectives for the individual targeted sites, as well as the overall Hempstead Harbor waterfront.

4.4.1 General Recommendations

Waterfront land is a limited resource, especially relative to interior upland properties. As such, these sites are often quite valuable and are in great demand. Properties along the shoreline provide unique opportunities and fulfill specific needs for water-dependent uses – such as marinas, boatyards, ferry terminals and other marine commercial and industrial uses – which require shore side locations. They also provide opportunities for water-enhanced uses, such as restaurants and hotels, which can benefit from long water views, available natural and recreational resources, and alternative transportation opportunities. Waterfront locations are also commonly sought after by individuals who would like to live along the shoreline or who feel that they can achieve a significant financial return by establishing uses (e.g., multi-family housing) which may also benefit from the valuable vistas and physical access to the water. Waterfront areas provide excellent sites for recreational facilities, including parks, beaches, fishing docks, hiking and bicycle trails, and marinas.

Notwithstanding the vast variety of uses and activities that may benefit from a waterside location, there are many other important factors to consider in determining the types of uses for which the site and area may be most suited. While this may seem to be an easy undertaking, determining the right mix of uses, attracting this development to the area, and fulfilling this vision can be quite difficult. Project proposals for private lands are largely in the hands of private developers, are heavily influenced by volatile market conditions, and are contingent upon conformance to established zoning, site plan, and subdivision standards and specifications. Common siting considerations may include owner/developer interests and objectives, community goals and visions, past and present

land use types and patterns, traffic generation, and a number of physical, social, economic, and environmental conditions. These factors often do not work in harmony with one another, and frequently even conflict.

Each of the sites targeted for this assessment were unique in certain respects; nevertheless, there is a great deal of commonality among these sites. Many of the lots are brownfields and each has, at a minimum, been disturbed by some previous development, land clearing, and soil disruption. Still others have been impacted by sand and gravel operations, grading and paving, deposition of dredged material, installation of utilities, and construction and demolition of buildings, fuel tanks, and other structures. Many of the lots are clustered or are in close proximity to one another, and as such are linked in many ways by their common geography. This geographic relationship also translates to common road accesses, shared utilities, similar physical and environmental conditions, common associations with nearby land uses and growth patterns, same or similar zoning standards and regulations, common history, and a general relationship with the Hempstead Harbor waterfront. Native vegetation has been removed from most of the study properties, leaving these sites somewhat barren or with limited successional and/or non-native invasive species growth. Due to the many similarities in site conditions, a number of general recommendations have been developed by employing certain basic planning tenets. These general recommendations are as follows:

Brownfield Remediation, Site Restoration, and Land Preparation, Reuse and Development

- Complete the remediation and reclamation of brownfield properties until the risks associated with site contamination are either eliminated or reduced to levels that are protective of public health and safety, supportive of renewed environmental quality, and conducive to the redevelopment goals established for the area.

- Demolish and remove obsolete or dilapidated structures that are no longer being used or that have fallen into significant disrepair so as to prevent potential injury or arson, improve the aesthetics of the area, and promote resale and redevelopment of these properties.

- Ensure that future development is adequately sited, designed, and constructed so as to avoid inundation or damage of on-site structures by periodic flooding, storm surge, high water tables and poor drainage.

- Ensure that projects are located at sufficient distance from valuable wetlands, so as to protect the many important functions of these features, and prevent other unnecessary environmental degradation.

- Ensure that public beaches have an adequate supply of sand to support and promote public use (i.e., consider nourishment in areas that may be rapidly eroding). Consider erosion rates when determining the suitability and siting of structures along the waterfront.

- Repair the pavement, potholes, and scoured beds of local streets and parking areas.

- Replace deteriorated bulkheads.

Environmental and Visual Resources

- Support and/or institute water quality improvement initiatives to improve conditions in the harbor consistent with the *Water Quality Improvement Plan for Hempstead Harbor* (1998). Improvement of harbor water quality can help bolster the environmental quality, economic viability (finfishing, shellfishing, tourism), and recreational uses of the harbor's waters.

- Protect, restore, and enhance wetlands and shorelines in areas where development or intensive activities have occurred in the past but are not currently proposed. Attempt to restore some unused areas to their natural condition. Such restoration would be beneficial from an environmental, ecological, erosion/sedimentation protection, and stormwater control standpoint, and improves the character and aesthetics of the area. The establishment of conservation easements, buffers, or open space dedications may be a suitable and desirable means to achieve protection under certain circumstances in some locations.

- Avoid installation of underground structures such as septic systems, underground fuel storage tanks, and basements in areas with shallow depth to groundwater. Elevating structures by providing fill can help to avoid many problems.

- Install adequate drainage infrastructure and incorporate stormwater controls into site designs by promoting natural vegetative techniques, creating stormwater recharge areas, and natural filtration as possible, rather than causing the direct discharge of untreated stormwater to the Harbor or area wetlands, ponds, coves, and tributaries.

- Ensure that adequate wastewater disposal occurs, particularly in areas that have shallow depth to groundwater or that lack municipal sewerage infrastructure. Where possible, all future homes, businesses, and facilities should be required to

connect to municipal sewerage systems, unless adequate siting, capacity, and design of on-site sanitary facilities is assured.

- Ensure that odors from municipal and industrial properties are controlled as much as practicable so as not to create a public nuisance or dissuade people from visiting the area.

- Clean up litter and debris dumped at brownfields sites, on vacant lots, street ends, and along roadway shoulders.

- Provide vegetative screening, buffers, and aesthetic enhancements, especially in areas having intensive/industrial and heavy waterfront commercial activities which may create an appearance of blight.

- To the extent practicable, utilize landscape materials that are native to the area and the waterfront, and the types of soils, sun exposure, and moisture conditions. Planting native vegetation can benefit wildlife by providing habitat and usually requires less maintenance, thereby limiting the necessity for applying fertilizers and pesticides which may have negative repercussions on the environment if such materials are not properly stored, handled, applied, and discarded.

- Locate structures in a way which preserves valuable vistas of the harbor, attractive architectural resources, and other aesthetic features and points of interest.

Traffic, Transportation, and Pedestrian Activity

- Ensure that future development does not unduly increase traffic volumes to undesirable levels which may jeopardize pedestrian and motorist safety and diminish the area's quality of life.

- Where dense development or significant growth is planned or expected in the future, restrict the number of curb cuts as much as practicable, and utilize cross-access easements in order to ensure orderly traffic circulation and motorist and pedestrian safety.

- Incorporate streetscaping and street amenities into revitalized areas not only in order to improve aesthetic qualities, but also to accommodate pedestrian activities.

- Promote alternative modes of travel where practicable.

- Promote pedestrian activity through the installation of pedestrian facilities and amenities, establishment of linkages to points of interest, and installation of adequate way-finding cues, perhaps with interpretive walkways, landscaping, and signage describing local history and natural marine and terrestrial resources.

Protection of Social, Economic, Historic, Archaeological, and Cultural Resources

- Preserve, protect, and promote important social, historic, archaeological, and cultural institutions.

- Encourage the establishment of land uses that are considered to be beneficial to the community in terms of bolstering the tax base, perpetuating a consistent community character and land use compatibility, and providing employment opportunities and economic stimulation without jeopardizing environmental quality or quality of life.

- Maximize public access to the waterfront and facilitate appropriate uses of the harbor and shoreline.

- Initiate community functions and activities that bring the residents of local and neighboring communities to the waterfront.

Plan Compatibility, Implementing Safeguards, Monitoring Plan Success, and Enforcing Laws and Agreements

- Officials involved in planning initiatives within the HMP study area should always consult approved local and regional plans to ensure that projects conform with the spirit and intent of both municipal and regional visions and recommendations. There have been many such plans and investigations which have been based on often widespread, in-depth, public participation campaigns.

- Utilize conditional resolutions of approval and appropriately drafted and filed legal instruments, such as easements, covenants, deed restrictions, and adequately-backed performance and maintenance bonds to formalize requirements and conditions of certificates of occupancies (COs). This will help to ensure that required mitigative regulations and requirements are effectuated and can serve as a basis to support orders to comply and facilitate the revocation of COs if violations are not properly resolved.

- Continue monitoring physical, land use, environmental, historic, cultural, and social conditions to determine whether planning and resource management goals are being achieved.

- Advertise key destinations to attract visitors or promote additional use by residents.

4.4.2 Site-Specific and Area-Specific Recommendations

The following site-specific and area-specific recommendations have been developed for the targeted Quality Communities properties and parcel clusters. Although these recommendations focus on particular sites and waterfront tracts, attempts are made to formulate and integrate each planning suggestion into a more holistic, regional (Hempstead Harbor-wide) framework, while enhancing and building off of the particular needs and unique characteristics of the waterfront community in which the parcels are located. Emphasis is placed on the protection of environmental resources, securing of public waterfront access, utilizing smart growth principles, preserving scenic vistas and aesthetic qualities, improving quality-of-life in the region, preserving cultural and historic resources, enhancing community character, promoting pedestrian and recreational activities, generating tax revenues, expanding employment opportunities, and bolstering the regional economy.

Glen Cove Creek

Waterfront commercial and waterfront industrial uses, such as those located along Glen Cove Creek and its vicinity, are integral to maintaining a suitable property tax base, generating sales tax revenues, providing a range of employment opportunities and generating economic multiplier effects associated with the spending and respending of wages, maintaining or enhancing economic growth, and providing a mix of land uses, products, and services to the City and surrounding communities. These land uses contribute to the general economic well-being of the area and provide some degree of stability. The tax benefits of industrial activities are particularly important in terms of supporting local schools, which in turn can offer myriad social, fiscal, and economic dividends. Moreover, the export of products or services to areas outside the community (i.e., bringing money in from outside an area) is one of the best ways to stimulate sustainable economic growth and employment opportunities for local residents.

In addition to some of the economic activities in the area, institutional land uses such as the City solid waste transfer station and wastewater treatment facility conduct necessary services and activities by ensuring public health and safety and general sanitary conditions. Intensive uses such as wastewater treatment facilities, in particular, often rely

on waterfront locations in order to facilitate the disposal of treated effluent in accordance with State-issued discharge permits while some industrial and wholesale operations utilize waterfront locations for shipping and receiving cargo.

Despite the need for such intensive institutional, commercial, and industrial land uses, they are sometimes considered to constitute an eyesore, may emit foul odors, generate noise and intense large-truck traffic, may create blight, and pollute soil, surface water, and groundwater. Many industrial sites have been abandoned due to increasing costs of operation, corporate competition, changes in foreign and domestic markets, and economic downturns. This contention is supported by many experts and is evidenced by the shrinking industrial base of the northeastern U.S. and the relocation of some of these industries to the southern U.S. or other countries where labor, land, and operations are more affordable. The post-industrial economy of the northeastern U.S. is now based more on the service industry and perhaps to a lesser extent, technology.

Glen Cove Creek is a natural feature which has been dramatically altered by shoreline stabilization and dredging in order to accommodate certain activities along the shore of a densely developed urban area. These waterfront uses also often prevent uses that may be more aesthetic or provide recreational opportunities or public waterfront access. Moreover, responsibilities for cleanup of contaminated sites are also often neglected, exacting great public cost through long legal battles and site remediation. Therefore, significant effort is needed to actively redevelop and revitalize the waterfront area.

The demolition of abandoned industrial buildings and redevelopment of these vacant properties with compatible, high-demand, water-dependent and water-enhanced land uses should be pursued. For this reason, it is recommended that at least a portion of this site be maintained for such waterfront commercial/light industrial uses. The creek and the surrounding commercial/industrial/institutional development that has been established along or in close proximity to the waterfront provides fitting centralized location for such activities. It would be very difficult, if not impossible, to find a suitable and non-controversial location to replace some of the industrial and other intense waterfront activities which are supported by the dredged and stabilized federal navigation channel, bulkheading, and docking areas. The area also is equipped with suitable infrastructure, including public water, fire hydrants, municipal sewerage, gas, and electricity.

Ensuring that maximum building coverage regulations are not overly permissive, or requiring vegetated buffers, increased setbacks, along street frontages, and suitable storage areas for intense waterfront uses may be practical and beneficial as long as these restrictions do not overly constrain the viability of operations. Appropriate setbacks or buffers along the waterfront for all buildings and structures that do not require a waterside location would help to mitigate potential environmental impacts and flooding

due to proximity to surface waters and shallow depth to groundwater. Uses which require or are enhanced by their waterfront location should be promoted.

There may be opportunities to work with future developers in securing/acquiring public amenities such as waterfront access easements, public boat launching areas, walkways, bikeways, parks, and esplanades. Furthermore, the utilization of appropriate conditions of approval, easements, deed/lease restrictions, or restrictive covenants tied to site plan approvals could help to ensure that environmental quality is maintained.

The *Glen Cove Creek Revitalization Plan* (1996) provides many good recommendations for the future of the Glen Cove Creek area, arrived at through a consensus-building process of public participation. Mixed uses, including waterfront-marine development, public parks and recreation facilities, and general retail uses have been recommended. One option would be to promote the more intensive waterfront uses on one side of the creek (north or south) or on one end of the Creek (east or west) while concentrating general retail businesses, shops, hotels, a convention center, and recreation on the opposite side or end.

Sea Isle

The privately-owned Sea Isle property would be best utilized for water-dependent and water-enhanced uses consistent with the Marine Waterfront (MW-2) zoning district and/or a park with an extension to the existing harbor-side walkway located along Shore Road and the mouth of Glen Cove Creek. This parcel is located near a major pedestrian/recreational walkway, a marina, restaurant; some dwellings also are nearby, in the flat, low-lying areas adjacent to both sides of the street, and perched on a tall steep slope just south of the mouth of Glen Cove Creek in the Village of Sea Cliff. The Sea Isle site offers views of the harbor as well as of the working creek.

Based on the Sea Isle property's location, and relative proximity to other sites and activities, there are a variety of land uses that are permitted in the MW-2 zone which could benefit from such a location. This property is privately-owned, so any consideration of preserving or developing the site as a public park would first require acquisition. Regardless of the type of development to take place on the property, caution should be exercised so as not to overdevelop land which may be subject to shore erosion, periodic flooding, potential storm surge damage, and surface water pollutant loadings, and which has a shallow depth to groundwater, highly permeable sandy soils, and a generally high degree of environmental sensitivity. Adequate setbacks, buffers, and/or conservation easements should be provided adjacent to areas that are environmentally, ecologically, and aesthetically valuable or that may be degraded by development (e.g., wetlands).

Any development at this location will likely require a permit from NYSDEC, and strict limits likely would be placed on the type and scale of development that would be permitted on the property. In fact, recent commentary from NYSDEC in connection with the pending proposal for multi-family housing on the site indicates that given the physical and environmental constraints pertaining to the property, conformance with NYSDEC development standards may not be attainable. Furthermore, as discussed in Section 3.3.1.4, the ownership of a least a portion of the parcel is in question due to the past history of dredging and filling of underwater lands.

Town of Oyster Bay/Hamlet of Glenwood Landing

It is recommended that the future growth, preservation, and revitalization activities of the Glenwood Landing portion of the Town of Oyster Bay be guided by the recommendations and initiatives outlined in the GLWRR Plan which has been adopted by the Oyster Bay Town Board. The area is not equipped with public sewerage, and some locations may be ill-suited to adequately treat large volumes of sanitary wastes that might be discharged to the ground, due to its proximity to the harbor, poor soil characteristics, shallow depth to groundwater, and location within the 100-year floodplain. The public participation component of that study revealed an interest in promoting recreational and compatible waterfront commercial and neighborhood business uses in the area, as well as reduced residential density on large tracts of open space land (i.e., the North Shore Country Club property), and improvement and preservation of environmental quality and visual resources. Development at this location should be constructed so as to avoid floodprone areas and the impacts of poor drainage, unless adequate mitigation is provided. Installation of adequate stormwater controls will also be important, particularly in terms of restoring and preserving the integrity of Hempstead Harbor's water quality, in accordance with the recommendations of the *Water Quality Improvement Plan*.

The KeySpan parcels identified as NCTM parcels 21-F-4/9/1947 located along the Glenwood Landing waterfront would be rezoned as Waterfront-A in accordance with the recommendations of the GLWRR Plan. In addition to rezoning to encourage water-dependent uses along the shoreline in this area, the GLWRR Plan recommends that the Town seek to acquire Lot 9 (the northern lot) and the northern half of Lot 1947 since the site contains a lengthy waterfront and a tidal pond, has not been remediated to a level that would be supportive of development, and could be easily unified with Tappen Beach Park which adjoins to the north. If acquired as recommended, the GLWRR Plan calls for this parcel to be restored to its natural state and preserved as wildlife habitat, with a hiking trail or a bicycle path along the waterfront. The GLWRR Plan provides a secondary recommendation of acquiring Lot 4 and the southern half of 1947 if funds

became available and KeySpan is a willing seller. If the Town was unable to purchase the southern property (Lot 4 and the southern half of Lot 1947), the GLWRR Plan recommends that water-dependent development be permitted and an easement be secured along the waterfront to provide an extension of the trail or bikeway and further enhance public waterfront access to the harbor.

The new Gladsky property also has been rezoned as Waterfront-A, pursuant to the recommendation of the GLWRR Plan, thereby promoting compatible water-dependent uses and activities. Presently, a marine salvage facility operates on the site and a number of boat slips are available. A site plan has been submitted to the Town of Oyster Bay. The proposed use is permitted in the Waterfront-A zone as a special permit use, subject to conformance with a series of special permit standards. When the Town considers the proposed site plan, special attention should be paid to the special permit standards developed under the GLWRR Plan in order to ensure that no significant adverse impacts will result. Additionally, sufficient mechanisms (i.e., enforceable legal instruments) should be established to ensure compliance with requisite mitigative measures (e.g., conditions of site plan approval, properly written and filed covenants and restrictions, easements, performance bonds, maintenance bonds, etc.). These controls are not only important in dissuading the occurrence of future problems of the type that reportedly occurred when this facility operated out of Glen Cove Creek, but may be essential in providing a legal basis from which a certificate of occupancy can be revoked if warranted.

Under the recommendations of the GLWRR Plan, the Glen Marine property has been rezoned from Light Industry to Waterfront-B, which allows a mix of water-enhanced and neighborhood commercial and recreational uses. The Jaguar detailing facility that has been proposed for this site has been thought to be largely inconsistent with the waterfront location and during the GLWRR planning process was the source of significant public concern and opposition. This property should be developed in accordance with the recommendations of the GLWRR Plan. Although the Town's Zoning Code allows certain flexibility to provide the Town Board with discretion in considering unique applications, a strong burden of proof should be applied to any applicant whose proposed use is not specifically listed as being permitted (either as-of-right or by special permit) under the new zoning.

Other recommendations for the Waterfront-B District include moving the current on-street parking area to the interior of the site. Ensuring safe access to the site and enhancing the aesthetics of the parcel with landscaping would be quite beneficial, as would augmentation of the vegetative screening along the frontage of the Glen Marine property. It should also be noted that the GLWRR Plan recommends the planting of

street trees, which will help to augment the aesthetics, pedestrian amenities, and environmental quality of the area.

Town of North Hempstead/Hamlet of Glenwood Landing

The Shore Realty/Hin Fin area has not been subject to a public planning and consensus-building process to determine the most appropriate uses for the area. However, the area could perhaps be redeveloped similarly as the GLWRR Plan study area located just a short distance to the north, by promoting marine-related, water-dependent businesses which would further centralize and augment the small number of marine commercial businesses that currently operate in that area.

There has also been a recent proposal to construct a multi-family residential development in this area (i.e., on the Harbor Fuel/Hin Fin site), which would include environmental remediation and the possibility of securing public access to the waterfront. Any benefits that may be received form such a project should be balanced against any potentially adverse effects. Important environmental and planning considerations include:

- project scale, excessive building height or and development density;
- conformance and compatibility with current zoning and area land uses;
- demand for waterfront locations by water-dependent uses;
- traffic generation, congestion, and motorist and pedestrian safety; and
- issues such as the need for a high level of site cleanup and installation of appropriate means for ensuring adequate sewage disposal.

Regardless of the type(s) of use(s) to be developed at the Shore Realty and Harbor Fuel/Hin Fin sites, traffic controls such as a appropriate signage or a caution light could be installed at the intersection of Shore Road and Scudders Lane to ensure that speeds around the corner of that intersection are not excessive and, if possible, sight distance should be improved in order to further mitigate dangerous conditions. Sidewalks may also be helpful in protecting pedestrians from traffic dangers. Remedial activities should continue, and the sites should be cleaned to a level that is appropriate for the type of development to be undertaken.

The Scudders Lane road-end provides a great opportunity for public access to the shoreline and would benefit from the installation of a boat ramp. The two adjacent properties, Shore Realty and Hin Fin, are bulkheaded along the shoreline, have relatively deep water nearby, and would be ideal for waterfront commercial, light water-dependent industry, or recreational uses after they have been remediated and reclaimed.

Village of Roslyn

The historic village ambiance should be highlighted by expanding or augmenting the village's central business district, perhaps centering around the old Roslyn Grist Mill which is currently being restored. Developing a waterfront trail/ walkway and esplanade, possibly in conjunction with the proposed Forest Daly Senior housing facility, would also provide a valuable public amenity. The proposed housing complex would include many attributes such as the cleanup and reuse of a large, underutilized brownfield site in the "downtown" area, the provision of public parkland and public access to the Hempstead Harbor shoreline, repair and/or replacement of a deteriorated bulkhead, increased property tax revenues, and housing for the area's senior citizens.

As an alternative to Senior Housing at the old Bryant Landing site, the development of specialty retail shops with an historic/waterfront/colonial architectural motif, scale, and character may be suitable. Such retail development could serve as an extension of the existing downtown business district. Improvements might include providing appropriate signage, lighting, an esplanade, waterfront walkway, "village square", and landscaping, and enhanced linkage to Gerry Park, Silver Lake, and Roslyn Pond as recommended in the *Village of Roslyn Waterfront Enhancement Strategy.*

Other suggestions for the Village of Roslyn include:

- repair the municipal parking lot near the historic Grist Mill on the west side of Roslyn Creek;
- restore and stabilize the creek/harbor shoreline to prevent erosion and siltation;
- provide adequate stormwater controls through measures such as minimizing impervious ground cover where possible, or installing appropriate runoff infiltration structures (e.g., vegetative stormwater controls or leaching devices depending on the depth to groundwater), rather than direct sheet or point source stormwater discharge;
- replace deteriorated bulkheads along the shoreline;
- restore native vegetation;
- repair pavement beneath the Roslyn Viaduct, where numerous potholes have developed;
- enhance streetscapes;
- develop a public esplanade along the creek at the proposed Forest City Daly senior housing project or other development (e.g., retail shops) on that site to promote pedestrian activity and provide linkages from pedestrian facilities to key commercial, historic, cultural, and recreational links;
- provide interpretive signage based on the history of the area, and other physical and environmental features; and

- screen visually unattractive features or areas and objects which are inconsistent with the desired character of the community.

The property designated as NCTM parcel 6-53-1051 is owned by the Town of North Hempstead and is situated directly across Roslyn Creek from the proposed Forest Daly Senior Citizen housing complex. The site could provide overflow parking and perhaps include a footbridge to allow pedestrians access to the proposed public open space/park and esplanade and other points of interest on the east side of the Harbor and to provide a notable centralized feature of attraction. Any such bridge is likely to be very expensive, however, and the design would have to be such as not to obstruct vessel navigation within this section of Hempstead Harbor/Roslyn Creek. Costs associated with such a project would also have to be justified in terms of a benefit/cost analysis and a public input campaign to determine that the project is truly desired and feasible. The property may also accommodate some other use which would attract people to the area.

Village of Flower Hill

This site is zoned for residential development, but currently contains a nursery garden center. There are no known plans to discontinue the nonconforming use of this site. If the current use were to discontinue, it might be developed for residential purposes as is currently zoned, or be rezoned for various business or waterfront commercial purposes. The land is somewhat constrained by steep slopes. There may also be a potential to accommodate a segment of the North Hempstead Shoreline Trail through this site in the future.

Town of North Hempstead/Port Washington

Land (NCTM parcel 6-53-1063) owned by the Town of North Hempstead on the west side of West Shore Road, near the Harbor Links Golf Course and the senior citizens complex on the former Morewood property, may be an ideal place for private or public indoor recreation or a social services/senior citizens center, doctor's offices, physical therapy, emergency response facilities or other health care operations which can support or provide services and recreational opportunities for the large, compact population of senior citizens in the area. Significant filling and regrading of the site will be necessary before any development can occur, and it is unknown whether there has been any past contamination associated with the property.

NCTM parcels 6-53-1047 and 1049 comprise two small (less than 3 acres, about half of which is underwater), contiguous, privately-owned lots on the east side of West Shore Road. Public acquisition of these lots (including an upland lot and underwater lot) and their use as public open space is one possibility. The site would provide a good viewing

area for pedestrians who might use the Hempstead Harbor Shoreline Trail. A small parking lot, perhaps, constructed of gravel, grass, or stone to induce stormwater infiltration, could be constructed. The potential exists for establishing a boat launching area. The removal of vegetation should be limited to only those areas that have to be cleared and suitable native vegetative materials should be planted where practicable in order to restore the area to a more native condition. A bench overlooking the harbor could be provided.

If public acquisition of NCTM parcels 6-53-1047 and 1049 is not possible or monetarily-feasible, these parcels could support a small amount of development. The property at this location is unique because there are both an upland lot and an underwater lot, which are essentially inseparable, and are ideally suited for a water-dependent use.

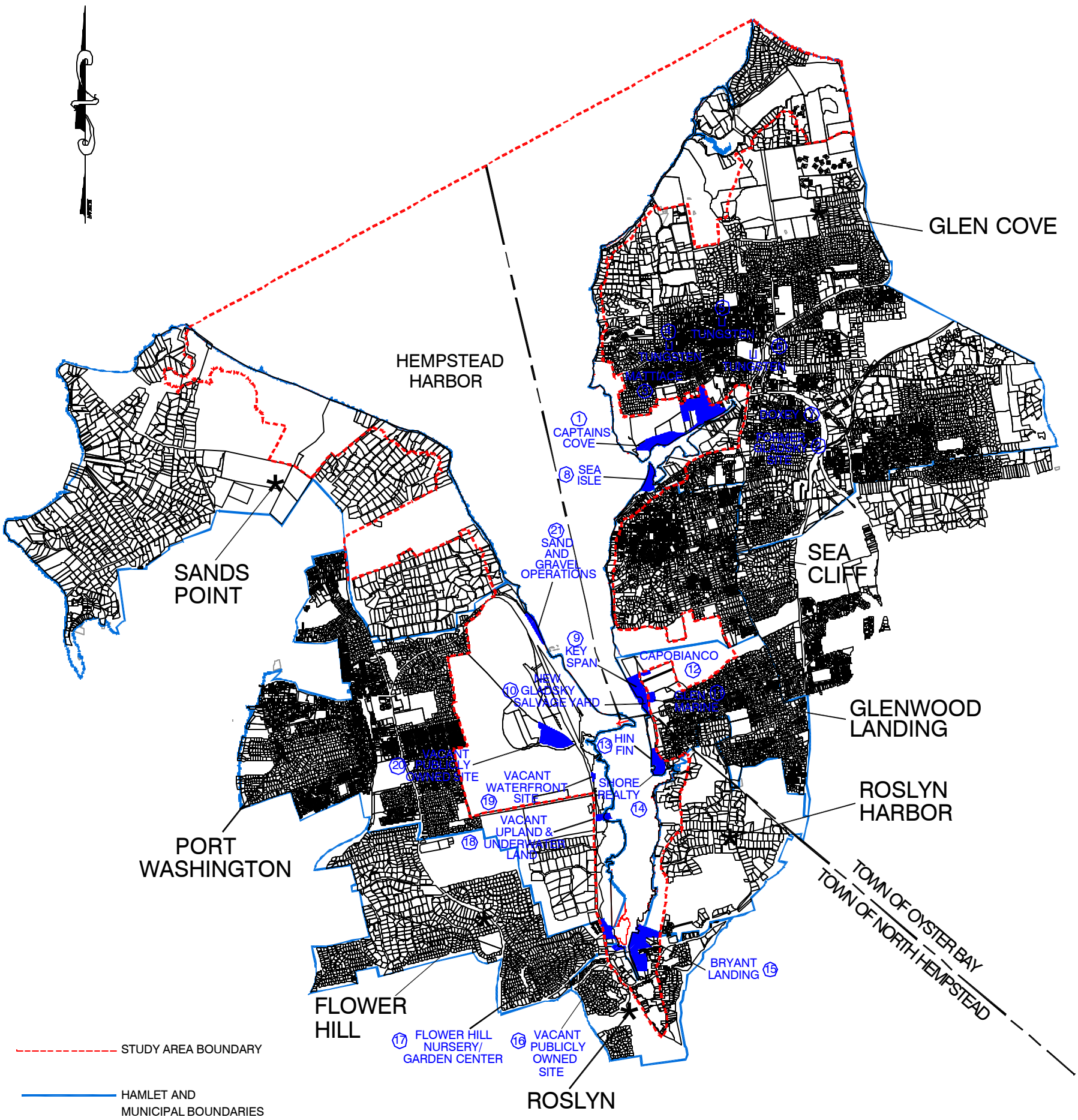
NCTM parcel 6-53-1003 could be left as a natural area, with access from the proposed Hempstead Harbor Shoreline Trail. There is also a possibility of providing a small parking lot and a few picnic tables along the trail overlooking the harbor and marshlands.

If the sand and gravel operations in the Port Washington area were to cease sometime in the future and were replaced by another less intensive (or more pedestrian friendly) use or were otherwise sufficiently screened, bermed, and/or landscaped, there may be an opportunity to secure a trail access over the site which could extend the proposed Hempstead Harbor Shoreline Trail, thereby providing linkage to the Beacon Hill Community. Ideally, future uses on this site would comprise water-dependent and/or water-enhanced uses which can benefit from its long stretch of shoreline. As with most waterfront properties, environmental protection, implementation of adequate stormwater, wastewater and flood controls, the preservation of valuable vistas, and provision of public access are important considerations.

HARBOR MANAGEMENT PLAN

QUALITY COMMUNITIES DEMONSTRATION PROJECT

INVENTORIED PROPERTIES



MAP 4-1

Cashin Associates, P.C.

ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT

AUGUST 2004

CHAPTER 5

HARBOR MANAGEMENT ISSUES

This chapter is divided into two sections. Section 5.1 provides an analysis of the key issues that were identified for Hempstead Harbor. Section 5.2 discusses the information collected from questionnaire surveys conducted as part of the HMP planning process, which information was used in refining the list of issues and, ultimately, in developing the recommendations that are presented in Chapter 6.

5.1 IDENTIFICATION AND ANALYSIS OF HARBOR MANAGEMENT ISSUES

As discussed in Section 1.5, key issues regarding Hempstead Harbor were identified within the framework of the nine harbor management goals that were formulated early in the planning process. The HHPC, with the assistance of Cashin Associates, and with input from key stakeholders and the public, identified issues in terms of problems that hinder the harbor management goals or opportunities that would serve to advance these goals.

The following are the key issues (in bold) that were identified by the HHPC, with additional discussion and analysis to define each issue more clearly:

Goal #1: Ensure efficient and safe navigation and operating conditions in Hempstead Harbor.

Issues:

1-1 **Conflicts exist among certain existing harbor uses.** The harbor is heavily used by large vessels engaged in commercial/industrial activities (i.e., petroleum and aggregate barges, passenger ferry service, etc.), as well as small non-motorized craft (i.e., sunfish, canoes, kayaks, etc.) and almost every size of recreational vessel in between. Ensuring that the harbor can accommodate all of these groups of users is important to other goals of this HMP: Goal #2 calls for the protection of water-dependent uses, which includes operations involving the large commercial/industrial vessels; Goal #4 calls for increasing water-related recreation in the harbor, which obviously indicates that uses involving recreational craft should be protected.

One key aspect of this issue relates to the safety of large barges operating in the harbor, especially in association with the aggregate trans-shipment facilities on

the west side of the harbor to the north of Bar Beach. Incidents have occurred in the recent past have where barges have not been properly moored, resulting in significant damage to certain shoreline structures caused by impact of the escaped barges.

The primary areas in Hempstead Harbor for the mooring of recreational vessel are located on either side of the mouth of Glen Cove Creek. The HHPC believes that these mooring areas have sufficient capacity to satisfy the current demand. However, there have been times in the past when these areas have experienced a greater level of congestion, and there is a potential for problems in accommodating the demand for moorings if the number of boaters seeking to utilize this resource increases significantly in the future.

1-2 **Speeding vessels compromise the safety of all harbor users.** This problem is not unique to Hempstead Harbor. As is the case elsewhere, a significant factor contributing to the occurrence of speeding is a shortfall in patrols of the harbor due to staffing constraints. This situation could be significantly improved by enhancing coordination among the municipalities, especially involving those which currently provide a intermittent patrol presence in the harbor (e.g., Towns of North Hempstead and Oyster Bay, and City of Glen Cove), and by establishing a mechanism to extend these patrols to the waters of the other municipalities.

1-3 **Vessel activities in the harbor are hindered by shoaling. However, dredging needs in the harbor have not been clearly defined and the navigational benefits of dredging must be balanced against the protection of important natural resources.**

Glen Cove Creek is a federally-authorized navigation channel which has been maintained by dredging. The creek contains a number of active uses (e.g., marinas, aggregate trans-shipment, fuel oil transfer, etc.), as it has throughout most of its history, which are functionally dependent upon the continued, timely maintenance dredging of this channel.

The Glenwood Landing and Port Washington waterfront areas contain active water-dependent uses, which rely on the deep waters of the upper harbor for navigation to and from the open waters of Long Island Sound. Occasional dredging has been conducted in the past at some of these facilities in order to ensure adequate accessibility to basins and other shoreside facilities. Future maintenance dredging of these facilities will be necessary to ensure their viability.

The Roslyn waterfront area has been discussed for potential dredging in the context of the *Village of Roslyn Waterfront Enhancement Strategy.* Certain participants in this planning process have voiced a vision for the study area that consists of commercial redevelopment, including marina facilities, which would necessitate dredging of the adjacent portion of the harbor. As discussed in Section 3.2, Roslyn had been an important maritime center through the end of the 1800s, but became less accessible for such purposes due to progressive shoaling in the lower harbor. Presently certain portions of this area are not usable during low tide. Continued recent shoaling of the lower harbor is evidenced by examination of navigation charts and aerial photographs depicting conditions over the past few decades, which indicates that this area probably would be difficult to maintain for use by sizable vessels, due to the persistent need for dredging that would be involved. Furthermore, initial discussions with agencies from whom approvals would be needed — including NYSDEC, the U.S. Army Corps of Engineers, and the New York State Department of State — suggests that a dredging project to allow for vessel access in this area likely would face considerable regulatory hurdles. These agencies have expressed concerns as to whether such a project could be shown to conform with state and federal coastal policies and, in NYSDEC's case in particular, have reiterated a long-standing position that a dredging project of this type would result in unacceptable, significant impacts to productive tidal flats.

1-4 **Proliferation of docking structures can adversely affect navigational safety, impair ecological and scenic resources, curtail public access along the shoreline, and impede uses of the harbor by others.** While this may be an important issue in other harbor areas, it does not appear to be a high priority concern in Hempstead Harbor, based on discussions during meetings of the HHPC in connection with the preparation of the HMP. Several factors contribute to this circumstance:

- Southern end of the harbor — Although this portion of the harbor is the most sheltered from wind and waves, docking structures generally are not desirable in this area because adequate water depths are lacking due to extensive shoaling.

- Middle portion of the harbor — This area (i.e., Glenwood Landing and the area around Bar Beach) has a limited number of residential properties, which generally represent the land use that is of greatest concern with respect to the proliferation of docking structures. Those docking structures that do exist here primarily serve commercial or industrial facilities and have been in place for many years.

- Glen Cove Creek — The presence of extensive docking structures in this area is considered to be acceptable, since they support the creek's role as an important center of maritime activity.

- Outer Harbor — Residential development is an major land use in this area (Sands Point, Sea Cliff, and Glen Cove). However, docking structures are relatively scarce along these segments of shoreline due to their general lack of protection from wind and waves.

Although new and expanded docking structures are not a major issue at this time in Hempstead Harbor as a whole, the Village of Sands Point recently has received a number of applications for very long docks, and the potential exists for this issue to become a greater concern in the future with respect to navigational safety (as well as visual aesthetics, public access along the shoreline, and other considerations).

Since the water-side boundary of all five Villages on the shoreline of Hempstead Harbor lies along the mean high water line, the authority to regulate docking structures at the local level falls primarily to the City of Glen Cove and the two Towns. The relevant laws in each of these three municipalities are synopsized as follows:

- **City of Glen Cove** – Chapter 109, "Boats, Docks and Waterways", specifies that a permit is required from the City for any in-water structure. However, Chapter 109 provides only one standard for such structures: the applicant must show that the structure "is not likely to fail and become a danger or obstruction to navigation or injure the navigable capacity of any of the waters under the jurisdiction of the City of Glen Cove."

- **Town of North Hempstead** – Chapter 42, "Public Waterways; Structures", specifies that a Town permit is required for any in-water structure. A permitting procedure is established, and adherence to a set of detailed standards is required, including a 150-foot maximum length (unless the applicant can demonstrate to the satisfaction of the Town Board that a longer structure is warranted). Other standards relate to: the protection of navigation and rights of adjoining property owners; maintenance of public use of and passage along public trust lands; minimization of environmental impacts; conformance to generally accepted engineering and design standards; limitation on the number of docking slips per residential lot; and provision of adequate marine

sanitation facilities and adequate solid waste disposal accommodations at docking facilities for marine commercial, multiple residential, and yacht club uses.

- **Town of Oyster Bay** – Chapter 241, "Waterways", specifies that a Town permit is required for any in-water structure. A permitting procedure is established, which includes evaluation of applications according to certain standards, mostly relating to safety, but also including: the structure shall not inhibit the use of adjacent beaches or unduly restrict the use of navigable waterways; and marine flora and fauna shall not be disturbed, except by Town permission. No maximum permissible dock length is specified.

1-5 **The effectiveness of local harbor management laws and regulations has been diminished by inconsistent oversight and enforcement, which has been exacerbated by limitations to municipal resources.** In particular, although some of the involved municipalities (e.g., Towns of North Hempstead and Oyster Bay, and City of Glen Cove) undertake active surveillance of the harbor, these patrols often occur sporadically. Patrols by the two towns primarily are based in other north shore harbors, Manhasset Bay for the Town of North Hempstead and Oyster Bay Harbor for the Town of Oyster Bay, while the City of Glen Cove generally patrols only on weekends. Additionally, these patrols are limited to the involved municipalities' respective areas of jurisdiction and are not coordinated with one another in terms of timing.

Opportunities exist for sharing municipal resources in order to improve the safety and efficiency of harbor operations. Discussions of this issue in meetings of the HHPC in connection with the preparation of the HMP indicated strong support for pursuing more efficient use of existing resources (i.e., personnel and equipment), possibly by means of inter-municipal agreements to allow expanded and coordinated patrols throughout the harbor, including municipalities that currently are not served by patrols.

1-6 **There are a number of inadequacies in the navigational aids in the harbor. In particular it was noted that:**

- **There is uncertainty regarding the jurisdiction over the maintenance of some of the existing markers in the upper harbor.** The municipalities that maintain a patrol presence on Hempstead Harbor (i.e., the Towns of North Hempstead and Oyster Bay, and the City of Glen Cove) have indicated that the U.S. Coast Guard is responsible for

maintaining all of the aids to navigation in the harbor, except the buoys on the channel leading to Tappen Beach Marina (which are maintained by the Town of Oyster Bay). However, the investigation undertaken in connection with the preparation of this draft HMP was not able to definitively resolve this question. It is important that a satisfactory solution be achieved, since the proper maintenance of these markers is needed to ensure continued navigational safety in this area.

- **The lower harbor presently is unmarked, which makes navigation difficult, especially during low tide for boaters who are not familiar with local bathymetric conditions.** Although designated as a federal channel, the lower harbor is no longer maintained as such; and due to the absence of significant water-dependent facilities in this area (i.e., to the south of Motts Cove), it is not anticipated that this status will be reversed. The limited boat traffic currently generated in this area does not appear to justify the expense and burden on public services that would be entailed in the maintenance of navigational aids.

Goal #2: Protect Hempstead Harbor's water-dependent uses, and promote the siting of new water-dependent uses at suitable locations, without impacting important natural resources.

Issues:

2-1 **In general, on a regional basis, existing water-dependent uses (e.g., marinas, yacht clubs, boat repair, marine salvage, petroleum and aggregate shipment, etc.) are threatened with displacement by uses that do not require a waterfront location.** However, in the Hempstead Harbor area, some of the key locations of concentrated water-dependent uses are being addressed by suitable zoning, which has been enacted for the Glen Cove Creek corridor and, more recently, for the waterfront in the Town of Oyster Bay portion of Glenwood Landing. In both of these areas, the new zoning focuses on encouraging water-dependent uses, but also allows other compatible uses that support and strengthen the water-dependent uses, consistent with New York State coastal policies regarding the protection of water-dependent uses.

Industrial zoning is in place for the Town of North Hempstead portion of Glenwood Landing, which previously had been used for intensive water-dependent industrial uses and presently is the site of the still-active Harbor Fuel facility. This zoning allows a range of uses, including many that are not water-related. In fact, residential development currently is being proposed for the Hin

Fin site, while the fate of the Shore Realty property is uncertain at this time as contaminant remediation progresses.

The sand and gravel operations on the west shore of the harbor, in the Port Washington section of the Town of North Hempstead, are a legal non-conforming use in an area that currently is zoned for residential use. Any expansions or modification of the existing use, or proposals for redevelopment with water-dependent uses in the future, would require zoning variances or a change of zone.

2-2 **In general, economic factors can make it problematic to develop water-dependent uses or to keep existing water-dependent uses in place.** Marinas and similar commercial uses, in particular, generally cannot operate profitably by themselves, given the high operating expenses of such a business and the high cost of waterfront land. However, the aforementioned zoning districts covering the Glen Cove Creek area and the Town of Oyster Bay section of Glenwood Landing provide for mixed use development along the waterfront, which afford economic support to the critical water-dependent uses.

2-3 **Because of a diversity of land use settings and management goals among the harbor's communities, significant variability exists with respect to the types of water-dependent uses that are appropriate along different segments of this waterfront.** One of the overall goals of the HMP is to retain and promote water-dependent uses. However, it is recognized that marine-commercial uses (i.e., marinas, boatyards, and the like) should not be encouraged in areas where such uses are not compatible with existing development, especially stable residential neighborhoods. In such areas, less intensive water-dependent uses, such as beaches and passive waterfront parks, are more appropriate.

2-4 **Recreational uses of beaches are water-dependent uses that are sensitive to pollution caused by other uses within the harbor and its watershed.** As an initial phase of the HHPC's harbor management planning work, a *Water Quality Improvement Plan* was completed in May 1998. That plan contained a series of recommendations for mitigating sources of contaminant loadings to the harbor and enhancing the harbor's water quality. Implementation of those recommendations will reduce the incidents of beach closures and enhance the enjoyment of bathing beaches in the harbor, especially those beaches that are situated further to the south, where tidal circulation is more restricted. See further discussion under Issue 5-6.

Goal #3: Redevelop vacant and underutilized waterfront land on Hempstead Harbor with appropriate uses.

Issues:

3-1 **Development and redevelopment of vacant and underutilized waterfront properties engenders opportunities for improving economic vitality, but also entails the potential for causing environmental impacts.** Twenty-one key parcels of concern have been identified throughout the harbor area, as identified and described in Chapter 4 of this HMP, including undeveloped lands, active uses that do not conform with the current zoning, industrial properties that are not being utilized to their full potential and are considered to be ripe for redevelopment, industrial brownfields and Superfund sites. In their current condition, these properties collectively detract significantly from the harbor, but also represent potential opportunities for advancing the goals of harbor enhancement. The ultimate fate of these 21 parcels clearly will play a central role in the overall revitalization of the harbor area. However, considering their waterfront location, the development or redevelopment of these parcels, individually, could result in significant impacts to the harbor or otherwise threaten to offset ongoing enhancement efforts. Therefore, a proper balance must be sought between realizing the economic benefits of new development, while also minimizing the adverse effects of such action.

In considering the issue of balancing economic benefits versus environmental impacts, the HHPC extensively discussed the desirability and feasibility of acquiring the vacant or underutilized parcels of concern. While acquisition provides clear benefits with respect to environmental protection, it also was the Committee's consensus that acquisition of all 21 parcels was neither practical nor desirable, especially given the substantial amount of land in the harbor area that already is publicly-owned. Therefore, acquisition targets must be carefully prioritized, and policies should be formulated to guide the development of parcels that are not acquired.

3-2 **Given the significant extent of vacant and underutilized waterfront property along the Hempstead Harbor waterfront, the redevelopment of this land potentially could entail wide-ranging, cumulative impacts resulting from multiple projects.** As noted under Issue #3-1 above, there are 21 key individual parcels of concern, which were examined together in a separate investigation completed in conjunction with this HMP under the State's Quality Communities program (see Chapter 4). Given that the development or redevelopment of some of these individual parcels could pose the potential for significant impacts to the harbor, the future disposition of the 21 involved parcels when considered together represents the most crucial factor which will define the future of Hempstead

Harbor. Therefore, careful coordination among the involved municipalities will be needed in order to ensure that harbor-wide management goals are best served as these parcels are developed or redeveloped. See further discussion under Issue 8-2 regarding ongoing and future cooperation.

3-3 **A number of vacant or underutilized industrial properties along the harbor's shoreline have suffered significant environmental contamination, which complicates efforts to redevelop these sites.** Many of the 21 key parcels are industrial brownfields; some are State and/or federal Superfund sites. The cost of remediating a number of these contaminated properties has resulted in their remaining vacant for many years, despite the premium value placed on waterfront land. Eliminating the blight of abandoned industrial property and restoring the affected parcels to productive use will require addressing site contamination to the satisfaction of the involved regulatory agencies (i.e., NYSDEC, the EPA, and/or the Nassau County Department of Health, depending upon the specific parcel).

It should be noted that some of the 21 key parcels addressed in the Quality Communities investigation presented in Chapter 4 of this report have been remediated and are available for redevelopment (e.g. Bryant Landing housing site in Roslyn and Captain's Cove in Glen Cove), while other parcels on this list either have been remediated and are being considered for preservation as public parkland (e.g., Keyspan parcels in Glenwood Landing) or are undergoing active remediation and will become available for reuse in the relatively near future (e.g., the Li Tungsten site in Glen Cove). However, other parcels on the list (e.g., the Shore Realty and Harbor Fuel/Hin Fin properties in Glenwood Landing) still require cleanup, which has impeded the goal of redevelopment.

Goal #4: Increase water-related recreational opportunities within Hempstead Harbor and along the harbor's shoreline, and increase public access to the waterfront.

Issues:

4-1 **Existing points of public access to the waterfront (e.g., beaches and parkland, docking facilities, trails, boat ramps, stairways down the bluff face, etc.) provide a vital, physical connection to the harbor, which renders a substantial benefit to local residents, and is one of the most important elements of the overall quality of life in the Hempstead Harbor area.** Therefore, protecting and maintaining these existing public access facilities should be a key objective of this HMP and, where practicable, opportunities should be pursued to provide expanded and improved public access to the harbor at appropriate locations.

4-2 **There are significant parking and roadway constraints in the Hempstead Harbor waterfront area, which favors projects that focus on increasing pedestrian and bicycle access.** To this end, the enhancement of the trailway system in the harbor area, including augmented linkages to adjacent nodes of activity such as downtown areas (see further discussion under Issue 7-1), should be a high priority among the possible actions to advance Goal #4.

4-3 **Existing trails and walkways along the harbor's shoreline occur as disjointed segments, which prevents continuous pedestrian access.** Spanning as many existing gaps as possible would enhance the usefulness of the trail/walkway system as a functional means of linking various points of interest along the harbor, with the long-term objective being to maximize the length of continuous trailway access along the entire harborfront.

4-4 **At present, there are inadequate facilities to support access to the harbor by hand-launched boats (e.g., canoes and kayaks).** The use of the harbor by such vessels is a low-impact means of providing an intimate recreational experience in the harbor, which should be encouraged wherever feasible.

Goal #5: Protect and enhance Hempstead Harbor's natural environment and open space resources, including surface water quality, wetlands, coastal fish and wildlife habitats, upland natural areas, and important viewsheds.

Issues:

5-1 **Hempstead Harbor contains significant natural resources which are threatened by development pressure and other continuing and proposed human activities.** Development practices in the distant past significantly diminished the natural resource base of the harbor in various ways, including the direct loss and impairment of wetlands, artificial stabilization of natural segments of shoreline, and deterioration of water quality due to point and non-point discharges from surrounding uplands. Despite this damage, however, the harbor has retained a sufficient amount of its original ecological value, as evidenced by its New York State designation as a Significant Coastal Fish and Wildlife Habitat. In addition, substantial effort has been exerted in recent years to enhance harbor ecology through wetland restoration, installation of nesting platforms for ospreys, water quality mitigation projects, and various other actions. In light of these circumstances, extreme caution should be exercised to ensure that the considerable investment in capital and effort that has been expended in

rehabilitating the harbor is not overshadowed by the consequences of improperly planned future actions.

5-2 **Certain in-water uses have caused adverse impacts to the harbor's important natural resources.** In particular, motorized vessels, including personal watercraft (commonly referred to by the trade name "jetskis"), that encroach into vegetated wetlands and other sensitive areas can damage habitat and disturb wildlife. A five-mile-per-hour speed limit is in effect in the lower portion of the harbor, and the Town of North Hempstead has enacted a prohibition on the use of personal watercraft in the area south of Bar Beach. These measures address the issue at hand to a certain degree. However, the effectiveness of such measures is contingent upon adequate education (see Issue 9-2) and enforcement (see Issue 1-5).

5-3 **The water quality in Hempstead Harbor is adversely impacted by discharges of stormwater from a large watershed area.** Non-point source loadings from this watershed are the primary source of water quality deterioration in the harbor. Although significant improvements have been realized in recent years due to various actions (e.g., decommissioning of the Roslyn sewage treatment plant, a number of projects to provide treatment to stormwater discharges, etc.), further action is required. The HHPC's *Water Quality Improvement Plan* provides a blueprint for achieving this objective.

5-4 **A large portion of the Hempstead Harbor watershed area is not connected to municipal sewage treatment facilities and, as a result, subsurface sanitary wastewater discharges are a significant source of contaminant loadings to the harbor.** The un-sewered communities along the harborfront include Sands Point, the northern portion of the Port Washington area, Roslyn Harbor, Glenwood Landing, and most of Sea Cliff. Although new subsurface sewage disposal systems in these areas are closely scrutinized by the Nassau County Department of Health, and are evaluated on the basis of strict standards, existing systems are not subject to such controls. Older sanitary systems are often of substandard design in terms of dimensions and required components (many do not even contain a septic tank and consist solely of cesspools). Poor maintenance is a leading cause of system failure. The aforementioned communities do not have mechanisms in place to address such problems, nor is the magnitude of the impact to the harbor due to this source even clear.

5-5 **The discharge of vessel wastes adversely affects harbor water quality.** These impacts can be mitigated by making available adequate pumpout facilities to serve the needs of the boating population in the harbor and by providing boaters

with sufficient information to encourage them to utilize these facilities. The establishment of a Federal Vessel Waste No-Discharge Zone is one of the most effective means of accomplishing this objective.

5-6 **Degraded water quality in Hempstead Harbor has resulted in periodic beach closures and the long-term closure of shellfish beds in these waters for harvesting.** Bathing beaches are one of the most important recreational uses on the Hempstead Harbor waterfront (see further discussion under Issue 2-4), and are available to a wider range of users than boating since the latter activity generally requires a substantial investment in equipment and time. Therefore, actions to ensure the availability of the harbor's bathing beaches should be assigned a high priority. With this in mind, programs and projects to reduce contaminant inputs to the harbor take on additional importance, beyond their often-cited benefits with respect to ecological resources, since water quality is one of the most important factors in the usability and attractiveness of beaches.

Hempstead Harbor has been closed to shellfish harvesting for many years, due primarily to non-point discharges from the surrounding uplands, as well as chronically degraded water quality in western Long Island Sound. Recent initiatives to improve regional water quality, especially through the *Comprehensive Conservation and Management Plan* for the Long Island Sound Study (completed in 1994), are expected to enhance background water quality conditions in the Sound, which also will benefit the Sound's tributary embayments such as Hempstead Harbor. The HHPC's *Water Quality Improvement Plan* outlines actions to address water quality conditions in the harbor more directly. Such programs potentially can achieve sufficient reductions in coliform concentrations in the harbor to allow for the eventual reopening of some shellfish beds, probably initially on a conditional or seasonal basis in the outermost portion of the harbor (provided that such action is supported by local commercial fishermen). However, the water quality standards for shellfish harvesting are much more stringent than the requirements for bathing beaches. Therefore, the reopening of shellfish beds should be viewed as a longer term objective than ensuring the availability of bathing beaches and most other water quality improvement objectives.

5-7 **The presence along the shores of the harbor of petroleum transport, storage, transfer, and dispensing facilities creates the potential for adverse impacts to water quality and ecological resources that would result from petroleum releases.** Active facilities of this type include the Exxon-Mobil terminal and Harbor Fuel operation in Glenwood Landing, and Windsor Fuel Company in Glen Cove Creek (waterborne deliveries to this facility have been suspended

temporarily until planned dredging of the creek has been completed). These types of larger-scale petroleum transfer operations (especially the Exxon-Mobil terminal) serve a vital function in the regional interest, and have done so for many years. A number of other facilities, such as various marinas and yacht clubs, also handle fuel, and are important in serving the interests of the local boating public.

Several sites around Hempstead Harbor – including the Forest City Daly Housing parcel in Roslyn, the Shore Realty property in Glenwood Landing, and the Doxey facility in Glen Cove Creek – had supported petroleum product storage/transfer operations in the past, but currently are not used for this purpose. Additionally the Keyspan power station in Glenwood Landing previously was fired by fuel oil, but has been converted to gas-only operation. Therefore, to a large degree, the threat of major petroleum contamination in Hempstead Harbor has diminished over the course of the past several decades. However, even with only a limited number of active petroleum facilities, proper management practices are needed in order to ensure that the harbor's vital natural resources are not adversely affected.

5-8 **It has been reported that restricted tidal circulation causes especially poor water quality conditions in the lower harbor, south of Bar Beach.** However, some recent data suggest that the levels of certain water quality variables in the lower harbor compare favorably to conditions in the middle harbor (just north of Bar Beach), indicating that further study is needed to define the scope of this issue more accurately.

5-9 **Floatable debris diminishes the aesthetic quality of the harbor.** Much of this debris is generated by litter in the surrounding watershed, which is conveyed to the harbor via stormwater runoff. However, some of this debris is released directly into the harbor as a result of storm damage to boats or shorefront and in-water structures, or littering from vessels or along the waterfront. Therefore, fully addressing the issue of floatable debris problem will require a multifaceted approach to target several different sources.

5-10 **A number of former or active industrial properties along the harbor's shoreline have suffered environmental contamination, resulting in deterioration of the natural environment.** The affected properties include Li Tungsten, Mattiace Petrochemical, Captain's Cove, Crown Dykman, Powers Chemco, Forest City Daly (Bryant Landing) housing site, Harbor Fuel/Hin Fin, Shore Realty, and vacant Keyspan parcels in Glenwood Landing. Some of these properties (e.g., Captain's Cove, Bryant Landing, and the Keyspan parcels) have been remediated, and are available for reuse. However, in other cases, contamination remains in place, as has been the case for many years. Because of

the waterfront location of these properties, the harbor itself is threatened, since many of the contaminants present at these sites are mobilized by the infiltration of rainwater and lateral flow of shallow groundwater to the harbor. Corrective action to eliminate this type of environmental threat generally is very expensive; so that in certain cases, initiation of the necessary remedial activities have been long-delayed. However, the sites in question represent some of the most prominent opportunities for redevelopment and revitalization of Hempstead Harbor, and hold the key to the future of the entire area. Proper remediation of existing site contamination is one of the first steps that must be completed in working toward that objective. Therefore, the cleanup of these properties is critical not only to protecting the environmental health of the harbor, but also to the ongoing revitalization of the surrounding communities (see further discussion under Issue 3-3).

5-11 **The installation of new shore protection in areas that previously lacked such structures adversely affects natural resources.** These types of structures structures (e.g., bulkheads, revetments, groins, gabions, etc.) interrupt the natural movement of sand along the shoreline, and thereby can prompt or exacerbate erosion at locations away from the protected site. In addition, the intertidal area in the immediate vicinity of such structures often undergoes intensified erosion, such that the intertidal zone may eventually be lost completely, thereby eliminating access to these public trust lands.

Often, a property owner seeks structural protection based on a perceived need, rather than to address an actual erosion problem. Other, less intensive measures (e.g., vegetation treatment, ensuring proper setbacks from the shoreline, etc.) may be available that could provide sufficient protection while reducing the potential for impacts to adjacent properties.

As illustrated on Map 3-6, protective structures are prevalent along the frontage of Hempstead Harbor. These structures generally are absent from the Village of Sands Point (where there are only about a dozen groins concentrated in a few stretches of the shoreline) and along most of the public shoreline on the harbor. Since the aforementioned impacts generally are more significant in areas where shore protection structures are absent or sparse, it is these two areas (i.e., Sands Point and public lands) where efforts should be focused to minimize the future placement of new shore protection structures, although this does not preclude an evaluation of the need for such structures that may be proposed in other areas of the harbor on a site-specific basis.

5-12 **The harbor's open space and visual resources are threatened by development pressure and other actions that can reduce or degrade the quality of these resources.** Aesthetic character is one of its most important aspects of the harbor, which contributes significantly to the quality of life of local residents. These visual resources are not homogeneous, but rather vary substantially throughout the harbor area. There are pristine sites of extraordinary natural beauty, including extensive tidal wetlands in the lower harbor and several upland preserves. Numerous historic structures and sites harken back to earlier times of the harbor area's settlement and development. Busy marine commercial centers also are present, especially in Glen Cove Creek, whose aesthetic character is very different from the preserves and historic resources, but is no less interesting.

The scenic beauty of the harbor can be enjoyed any time of year, and is accessible for observers on the water or the waterfront, and even from many inland locations. Viewing the harbor is the lowest impact form of water-related recreation available, and should be encouraged to the maximum extent practicable. This objective can be advanced by actions to remediate existing impairments to the harbor's aesthetic quality and by ensuring that any future activity is undertaken in a manner that is in harmony with the visual setting of the given site.

Goal #6: Preserve important historical resources along the waterfront of Hempstead Harbor.

Issues:

6-1 **Efforts to preserve important historical resources along the harbor's waterfront have been hampered by the lack of a comprehensive investigation to identify and describe such resources which merit special protection.** Historic resources create a meaningful connection to the rich heritage of the harbor area, and provide substantive context for the evolving relationship between people and the harbor. In order to ensure that this heritage is properly protected for the enjoyment and appreciation of future generations, it first is necessary to identify significant historic resources and define the specific aspects of these resources which are important to the overall goal stated above. Many portions of the harbor area already have been subject to such investigations. However, these studies generally have been undertaken on a localized, community-specific basis. A broader-based inventory and analysis, comprehensively covering the entire harbor area, would address historic resources in areas that may not have been adequately investigated to date, and also would provide for a more thorough understanding of the historic importance of Hempstead Harbor as a whole.

6-2 **Existing laws and regulations may not provide adequate protection to historic resources along the harbor's shoreline.** Designation under the New York State and Federal Registers of Historic Places provides certain benefits to the owners of registered properties, including income tax credit for certain rehabilitation work, matching grants for qualifying preservation projects (subject to available funding), and priority consideration from Federal and State agencies in space rental or leasing. However, these programs place no restrictions on private owners of registered properties, who can sell, alter or dispose their properties as they wish. It is only through local legislation that more stringent controls can be enacted in order to effect the preservation of historic resources.

All eight of the municipalities along the shoreline of Hempstead Harbor have enacted local laws for the protection of historic resources. However, the adequacy of these laws should be reviewed to ensure that they optimize the achievement of the legislative intent and purpose.

6-3 **An opportunity exists to enhance public appreciation of the historic importance of the harbor's waterfront.** Although certain informational materials are provided at various locations in the harbor area, these generally are only available at key historic resources, which are attended by only a small fraction of the individuals who live in or visit the area. Improved local historical knowledge can be achieved by placing educational materials, especially suitable signage, at locations that are visited by larger and more diverse segments of population.

6-4 **The harvesting of shellfish and lobsters is an historically important activity based in Hempstead Harbor which has been negatively impacted to a significant degree by the degradation of local environmental conditions.** Although some progress has been made over recent years in reversing the declining trend in water quality in the harbor, significant further improvements will be necessary to attain conditions that would allow the resumption of shellfish harvesting. Therefore, this should be designated as a long-term objective, targeted under the recommendations of the HHPC's *Water Quality Improvement Plan* (see further discussion under Issue 5-6).

The decline of the lobster industry in Hempstead Harbor has been followed more recently by a precipitous crash of the entire industry across most of Long Island. This situation currently is under investigation and may not be resolved anytime soon. Therefore, it is uncertain whether Hempstead Harbor will serve as a significant base for lobstering activity in the foreseeable future.

Goal #7: Improve linkages between the Hempstead Harbor waterfront and adjacent downtown areas.

Issues:

7-1 **Enhanced utilization of the harbor waterfront provides opportunities to improve the vitality of adjacent downtown areas, especially in Glen Cove, Sea Cliff, Roslyn, and Glenwood Landing. Conversely, the existence of commercial districts in the vicinity of the harbor provides the opportunity to increase public utilization of and access to the water.**

The establishment of improved pedestrian linkages to interconnect important nodes of activity will advance the goal of integrating the harbor communities into a single entity. The downtown areas cited above represent four of the most important nodes on the harborfront, and would be expected to benefit significantly from the increased activity generated by such linkages. In addition, enhanced usage also would be expected to occur at less active facilities and sites that are served by improved connections to these busy community centers.

Goal #8: Engage in a collaborative effort among the municipalities surrounding Hempstead Harbor, by means of innovative inter-municipal planning and community development techniques that link environmental protection, economic prosperity, and community well-being, so as to ensure effective long-term community, regional, and watershed vitality.

Issues:

8-1 **In addition to the municipal agencies and community/environmental organizations that are participating in the preparation of the HMP through the Hempstead Harbor Protection Committee, there are a number of private stakeholders whose input to the HMP planning process is vital to ensuring that all legitimate interests are properly represented in the final plan.** The planning process for this HMP has included a special outreach effort to provide information to and receive input from local business and agency representatives. This consisted of a special "stakeholders" meeting on July 11, 2002 , as well as a "stakeholders'" questionnaire survey. The information obtained from these sources was used in finalizing the list of harbor management issues discussed in this chapter, and in formulating the recommendations presented in Chapter 6. Sustained interaction with these parties is needed throughout the implementation

phase of the HMP in order to maintain their support for HMP initiatives and to ensure that their interests continue to be properly served.

8-2 **Overall, the success of ongoing harbor management initiatives will depend upon an effective, cooperative effort to achieve a compromise plan that maximizes the benefits for all of the involved entities and minimizes adverse impacts throughout the planning area.** With the establishment of the HHPC in 1995, the communities along the rim of Hempstead Harbor have confirmed their commitment to work cooperatively in ensuring the betterment of the harbor area as a whole. The HHPC has served in this role of facilitator during the preparation of this HMP, providing inter-municipal oversight and coordination for the project, and will continue in this function during implementation in order to ensure that harbor-wide goals and objectives are advanced to the maximum extent possible.

8-3 **In the past, individual municipalities in the Hempstead Harbor area have undertaken independent actions to manage harbor uses within their own areas of jurisdiction, which has resulted in inconsistent rules and requirements across municipal boundaries.** This has resulted in confusion among harbor users, especially recreational boaters who are uncertain as to which rules apply to which portions of the harbor. There also is frustration concerning this situation among the municipalities, whose constituents are seeking consistent regulations that would be easy to understand and comply with.

8-4 **In the past, notification regarding pending actions within the harbor and its waterfront area has not always been adequately coordinated across municipal boundaries, which has resulted in cases where there has not been sufficient opportunity for input by all affected parties.**

The HHPC has served a vital role in providing a forum for representatives from the various harbor communities to discuss issues of common interest. This has improved the decision-making process by increasing awareness and consultation regarding proposed actions. However, continued effort is needed on the part of the participating municipalities to notify their neighbors, through the HHPC whenever appropriate, with respect to impending significant actions so that local decisions can consider input from all affected and interested parties, as well as the broader harbor-wide goals and objectives identified in this HMP.

8-5 **Multi-layered, overlapping jurisdictional authority exists within the harbor, which potentially can complicate effective harbor management, especially in cases involving uses of the harbor bottom.** However, discussions during HHPC meetings indicate that this specific issue has not posed a significant problem in

Hempstead Harbor; whereas, in contrast, cooperation and coordination across municipal boundaries in the harbor has been identified as one of the key issues requiring further attention (see further discussion under Issue 1-5).

8-6 **Because of the large number and magnitude of management issues that pertain to Hempstead Harbor, effective prioritization of future actions will be important in order to ensure the most efficient use of limited public funding.** The HHPC will also serve a critical role here, by creating a forum for discussing the relative merits of the various recommendations of the HMP, evaluating the degree to which these proposals advance area-wide harbor management goals and objectives, and assigning priorities in a fair and balanced manner.

Goal #9: Recognize and build upon the unique characteristics and circumstances of Hempstead Harbor and its watershed in developing approaches to the following concepts: revitalizing existing communities and promoting livable neighborhoods; preserving open space and critical environmental resources; encouraging sustainable economic development; improving partnerships, service-sharing arrangements, and collaborative projects; and heightening public awareness.

Issues:

9-1 **Certain existing harbor uses, such as the aggregate facilities on the west side of the harbor, have been cited as periodically impacting the quality of life along the harbor's waterfront.** In particular, it has been claimed that elevated noise levels generated during certain operations (e.g., barge maneuvers) disturb the tranquility of nearby residential neighborhoods.

It is recognized that barge operations are constrained in terms of the availability of adequate water depths, and must be timed around high tides. Consequently, such operations may of necessity be conducted during the night, if that is when the next high tide occurs after a barge arrives. However, certain measures may be available to ameliorate the levels and/or duration of noise generated.

9-2 **An effective program of public education will maximize attainment of harbor management goals and objectives.** Many of the issues discussed above pertain to problems or opportunities related to issues of public involvement. These include vessel operations, non-point source abatement, protection of natural resources, litter control, and appreciation of local historic resources. Successful solutions to these issues will require the public to be constructively engaged,

which can only be accomplished by means of effective education and information programs.

5.2 SURVEY RESULTS

The HHPC, with the assistance of Cashin Associates, utilized questionnaire surveys to obtain additional input from the public regarding the primary issues of concern in Hempstead Harbor. Two separate surveys were distributed:

- in June 2002, a "stakeholders" survey was distributed to approximately 100 owners and operators of key parcels and facilities within the study area; and

- starting in September 2002, a separate public survey was distributed, initially at the public information session held at the Bryant Public Library on September 26, 2002, and which subsequently was distributed to a wider audience via targeted mailings and other means by the HHPC, the Town of Oyster Bay (through the Supervisor's Office), and the Glenwood/Glen Head Civic Association.

Copies of the public survey and stakeholders' survey questionnaire forms are included in Appendices B and C, respectively.

Twenty-nine completed "stakeholders" questionnaires were received, for a response rate of approximately 29 percent. A total of 333 completed surveys were received from residents; however, the response rate could not be ascertained because a cumulative tally of the number of surveys distributed by the various sources was not kept.

The responses received on the returned questionnaire surveys are presented in Sections 5.2.1 (public survey) and 5.2.2 (stakeholders' survey). The organization of this information corresponds to the format of the questions contained on the two surveys. The multiple-choice responses are expressed in terms of percentages of total responses received for each question, unless otherwise specified. Totals may not add to 100 percent due to rounding. The responses to open-ended questions have been edited to some degree in order to provide clarification and to make the language presentable for this report.

It is important to recognize that the mere fact that a specific issue has been raised in one or more questionnaire responses does not necessarily mean that the given issue is germane to the HMP. Some of the issues do relate to the overall intent of Harbor Management Plans in general, as set forth under the New York State guidelines for such plans. Some issues do not fall within the goals and objectives established by the HHPC

for Hempstead Harbor. In some cases, the comments pertain to issues that are of a more localized nature than the broader, harbor-wide thrust of the HMP. Other issues concern properties that are not within the HMP study area.

The survey responses show that there is a wide divergence of opinions regarding harbor issues. This is most clearly illustrated on the matter of future development of vacant and underutilized properties along the waterfront, ranging from respondents who advocate that this land be preserved in its entirety (and, in some cases, suggesting that existing uses should be de-activated and converted to open space), to those who believe that future development is needed to spur economic growth and control taxes (and, in some cases, expressing frustration with limitations placed on existing uses). Obviously, it is not possible to develop a plan that satisfies all of these positions. However, it is possible, and it is the aim of this HMP, to devise strategies that address the key issues in a manner which achieves an appropriate balance for improving the harbor to the optimal benefit of all involved parties.

5.2.1 Public Survey Results

1) Do you live or work in the area around Hempstead Harbor?

Community	Respondents Who Live in Area	Respondents Who Work in Area
Glen Head	43%	32%
Glenwood Landing	9%	8%
Roslyn	1%	7%
Roslyn Harbor	3%	2%
Glen Cove	9%	15%
Sea Cliff	24%	22%
Sands Point	2%	2%
Port Washington	2%	7%
Unspecified	7%	5%
No	<1%	<1%

2) Years lived or worked in the area around Hempstead Harbor?

Years	Respondents Who Live in Area	Respondents Who Work in Area
0-9	19%	22%
10-19	12%	22%
20-29	18%	22%
30-39	21%	24%
40-49	19%	5%
50+	11%	5%

3) Which activities do you presently engage in within Hempstead Harbor or along its shoreline?

a. power boating: **6%**
b. sailing: **7%**
c. canoeing, kayaking rowing, etc. (human-powered small boats): **9%**
d. fishing: **11%**
e. swimming: **15%**
f. birdwatching, nature study, or viewing the harbor: **23%**
g. hiking, walking, jogging, or bicycling: **22%**
h. commercial business owner: **<1%**
i. other: **3%** (playground for children, watching sunset from beach, formerly worked on Glen Cove ferry, summer band concerts, golf, scuba diving, restoration of Roslyn Grist Mill, live on harbor)

4) Commercial business operating in harbor area: 2 responses, **50 years and 9 years**.

5) In your opinion, of the items listed below, which are the TWO most important issues that need to be addressed in Hempstead Harbor? (3 points assigned for most important issue, 2 points for second most important issue, and 1 point if item is checked with no ranking assigned)

a. Ensuring navigational safety and efficient vessel operation in the harbor: **38 points**
b. Protecting and preserving uses that require access to the water (marinas, yacht clubs, boat yards, etc.): **49 points**

c. Redeveloping vacant, underutilized, and deteriorated waterfront properties with appropriate uses: **200 points**
d. Increasing water-related recreational opportunities in the harbor and public access to the waterfront: **140 points**
e. Protecting and enhancing the harbor's natural environment and open space resources: **487 points**
f. Preserving important historic resources: **75 points**
g. Improving linkages between the harbor waterfront and adjacent downtown areas: **22 points**

6) For each of the TWO top-priority issues which you have identified in response to question #5 above, briefly describe the specific problem that you believe needs to be addressed most urgently.

Most Urgent Problem Under Issue #1:

- Access to waterfront from Glen Cove downtown.
- Water quality deterioration.
- Deteriorated waterfront property and shoreline cleanliness (remove tires visible at low tide).
- Limit building on shoreline; prevent over-development and commercialization; development should be in balance with nature/scenery/ recreation.
- Pollution from Bar Beach.
- Increase eye appeal and usability.
- Re-initiate transport to NYC via Sound.
- Increase water-related recreational opportunities and public access.
- Maintain open space.
- Eliminate "jet skis".
- Keep area along Glen Cove Creek free of development.
- Ugly barges left in the middle of the harbor.
- Educating boat operators on harbor rules and enforcing the same.
- Remove power plant and shipyard and replace with gardens; appropriate use of two pieces of property owned/leased by landscaper and marine salvage company; industrial area along Shore Road is unsightly, overgrown, not properly maintained and reduces access to the harbor area; acquire the land next to Tappen Beach.
- Provide affordable housing.
- Dredging the harbor; allow dredging in Glen Cove Creek.
- Over-congestion.

- Address land use in Town of Oyster Bay section of Glenwood Landing area between the water and road.
- Lighting company and oil industry must be good neighbors.
- Proper removal of abandoned oil tanks on Shore Road near bait & tackle shop; potential leakage from the Keyspan tank.
- The shoreline is constantly littered with garbage.
- Would like to see senior housing built on underutilized land.
- Waterfront should reflect surrounding towns.
- Stop use of fertilizers, etc. that pollute water, making it unswimmable. Use money charged for permits to clean beach and water.
- Improve tax base for commercial/residential development.
- Need public library next to marina.
- Make the golf course a Town course.
- Additional recreational opportunities (e.g., tennis, basketball)
- Correct the sewer overflow from Roslyn.
- Give incentives to sporting goods stores which would rent equipment on the waterfront.
- The beaches at Tappen, Bar, Hempstead Harbor need to be cleaned up and protected from erosion.
- Free access to beaches/public transportation to them.
- Better safety on the water; more aids to navigation.
- More boat storage (dry and wet).
- Boat launching and usable ramps and proper maintenance of what already is in place.
- Move school buses from Glenwood Landing school: they are a health hazard to the residents bordering the school yard.
- Attempts to remove or create a hostile atmosphere towards existing marine businesses.
- Used to be able to swim and sail in Hempstead Harbor. Harbor is too dirty to do so anymore.
- Continue the Sea Cliff promenade to the public sitting area at Power House Park, possibly w/Town help.

Most Urgent Problem Under Issue #2:

- Too many historic places are being torn down.
- Regulate and enforce environmental laws.
- Private docks block beachfront.
- Clean up unsightly aspects; the LIPA plant needs to be better “hidden”.
- Public access, ferry service, marinas.

- Stop discharge of sewage and other wastes; possible pollution from commercial vessels; trash from recreational boats; ensure sanitation.
- Not to destroy Native American heritage.
- Dredge Inner Harbor.
- Over-development; Selling waterfront to commercial developers in the name of public access.
- Transportation to NYC (ferry); in event of a disaster, means of exiting LI.
- Navigational markers.
- Pool for children and more athletic facilities.
- West side of Harbor, south of Bar Beach.
- Preserve existing beaches and parks; preserve ecological integrity; create nature paths and environment for shore birds; easy access to public for passive use of harbor (walking, bird watching, etc.).
- Preserving Sea Cliff Water building on Shore Road and Laurel Avenue. (This is an 1800s building which was almost torn down because of a housing proposal); Sea Cliff waterfront.; along Cliff Way and Boulevard area in Sea Cliff.
- Continue sidewalk down to power station; increase seating areas and playgrounds.
- Providing anti-pollution measures; correct the stormwater runoff from Sea Cliff.
- Increasing wetland preservation.
- Bring the downtown to the waterfront (shuttles); connect the many parks and beaches that surround the harbor using boardwalks (providing detour signs to direct people into towns along the way). The boardwalk should start in Glen Cove and follow the coast past Sea Cliff, Glenwood Landing, along the water through Roslyn back up the other side into Port Washington and Sands Point.
- Marina at Tappen needs updating and maintenance; boat launch area too shallow at Tappen and ferry area at risk of closing; not enough tidal flow/flush.
- Balancing needs of small and large boaters.
- Development of areas North of Roslyn Northern Boulevard.
- Elimination of “junk yard” between LIPA plant and Tappen beach; Town should acquire Phyfe Shipyard.
- Real estate developers should not be allowed to build along Shore Road.
- Fixing the sidewalk and putting in sidewalk from Scudders Lane to Tappen Beach.

7) Do you believe that there are other important issues not listed under question #5 that should be addressed in the Harbor Management Plan?

There were 35 "NO" responses. The following items were listed among the "YES" responses:

- Specific water quality issues; protect drinking water aquifer; preserve wetlands.
- Prevent over-development of harbor; make area less commercial.
- Overfishing; outlaw hunting of wild fowl in harbor.
- Health-related issues; emissions from power plant.
- Dredging the harbor.
- Ensure that if private golf courses sell their land it will not be commercially zoned.
- Car racing and speeding on Prospect Avenue; Improve safety.
- Recreational opportunities not water-related (tennis, golf).
- Lack of maintaining buoy markers in the harbor.
- Traffic study/plan in relation to what ultimately gets developed on this vacant property. Minimize traffic congestion which will result if access to harbor is modified.
- Transport via water — LIRR is slow, need ferry to NYC several times a day.
- Stop boats from using the water as a toilet, and homeowners from putting carcinogens on their lawns and houses.
- Too much red tape.
- Homeland security from the water.
- Enforce procedures so that another Key Span-type structure is not built. LIPA seems to do whatever they want here.
- Eliminate jet skis and noise pollution from power boats.
- The sand and gravel barges from Port Washington.
- Lack of cooperation/coordination between the many communities; ensure community input to all decisions regarding harbor plan.
- Scudders Pond.
- Lighting the jogging-walking areas.
- Area south of playground should be used for a picnic area. More tables and grills and better access for use of area for swimming.
- Environmental impact of local power generation.
- Erosion of beaches and average harbor depth is too shallow due to fill in.
- Solar power cells or waterpower for LIPA power plant.
- Any commercial development should include affordable housing.
- Educating the public about the issues on a case by case basis.

- Clean up of the Super Fund site at lower end of Scudders Lane.
- We do not need housing on waterfront, but rather beach and water recreational projects; apartment building should not be permitted; public or private housing not acceptable.
- Have development for housing uses which are available to middle income people, not just large lots for the wealthy.
- Cosmetic improvements to screening devices near generators; LIPA/Key Span should be modernized; remove smoke stacks.
- Stormwater (street drainage) should be treated prior to emptying into harbor.
- Make those that exploit natural resources for profit incur an expense that is used to restore natural resources to avoid a net loss in environmental quality.

8) Which single improvement or enhancement (e.g., public or private project, new or amended law, change in administrative procedures, etc.) do you think should be the highest priority for future action in and around Hempstead Harbor?

- Keep harbor clean.
- Water-development area to attract businesses and tourists to area.
- Patrol and enforcement of bilge release.
- Laws preventing beach-front blockage.
- Area has been neglected (East side).
- Non-point and point pollution abatement; clean up industrial waste polluting water; monitoring water in harbor and what goes in it; implement strictest environmental policies in the world.
- Limit use of power boats and jet skis.
- A joint coordinated effort for harbor upgrading.
- Who's actually in charge — Federal, State, County, City?
- At one time, the area directly on Hempstead Harbor was going to be a preserve with hiking trails and possible park as an inter-municipal, combined effort.
- Walking and bike path along the water, separate from parking areas.
- Clean up the waterfront; restore natural beauty; remove chain-link fencing.
- A comprehensive plan for entire area resulting in a desirable community area of diversified commercial and private (parks, beaches, paths, gardens, etc) activities.
- Creating ways to enjoy the natural habitat (birds, plants, etc.).
- A library on the waterfront.
- Safety on the harbor.

- Dredging and clean-up of contamination, especially south of Keyspan parcels; dredge the inner harbor will allow better use and cleaner water, and improve tidal flow.
- TOB should acquire unused LIPA/KeySpan properties and convert to public access, open space.
- Whatever it is, make sure it generates a tax base. We have enough parks.
- A permanent moratorium on any new commercial transportation within Hempstead Harbor.
- Keep entire area in natural state; no more commercial development like oil docks or factories; set development back from the waterfront; up-zone to stop subdivisions; make it all a nature preserve.
- Change the law so that private ownership of waterfront property begins 5 feet above the high tide mark, then use this land in a coordinated fashion to build a boardwalk which connects all the towns, villages, and cities which surround the harbor.
- Enforce residents- only access to Hempstead Harbor facilities; this will eliminate destruction and vandalism.
- A nice waterfront restaurant.
- Purify and repair canal.
- Maintain existing marinas and existing businesses.
- Remove all fuel tanks along Shore Road (LIPA power plant).
- Open Space and preservation; prevent erosion; improve the view.

9) Rank the following objectives in order of the priority you would assign for redeveloping vacant, deteriorated and underutilized properties (including contaminated sites) on the Hempstead Harbor waterfront, with "1" being the highest priority.

a. provide a mix of uses which take advantage of and enhance the waterfront
b. address a variety of housing needs
c. include commercial uses that complement and strengthen, and do not compete with, nearby existing downtown areas and local business districts
d. provide open space and opportunities for public access to the waterfront
e. take into consideration harbor-wide needs, to ensure that revitalization of the harbor area is properly coordinated with the land use plans and policies of neighboring communities

5.2.2 Stakeholders Survey Results

1) The following organizations completed and returned the surveys:

- Cedarmere
- Exxon-Mobil Corporation
- Forest City Daly (Bryant Landing Development)
- FOX Navigation
- Garvies Point Museum and Preserve
- Gladsky Marine
- Glen Cove Department of Public Works
- Glen Cove Harbor Patrol
- Glen Cove Recreation Department
- Glen Cove Waste Water Treatment Plant
- Glenwood Power Station/Gas Turbine Site
- Hempstead Harbor Beach Park
- Hempstead Harbor County Park
- Hempstead Harbor Club
- KeySpan Glenwood Power Station
- LIPA Bar Beach Substation
- LIPA Glenwood Substation
- Nassau County Department of Public Works
- Nassau County Marine Police
- Nassau County Planning Commission
- North Shore Country Club
- Glenwood Landing Park (Powerhouse Park)
- Rason Asphalt
- Roslyn Claremont Hotel
- Roslyn Grist Mill
- Sands Point Preserve
- Sea Cliff Village Beach
- Sea Cliff Water Company
- Tappen Beach
- Webb Institute
- Windsor Fuel Company

2) Years of operation:

# Years	% Responses	# Years	% Responses
0-10	17	61-70	3
11-20	6	71-80	17
21-30	14	81-90	3
31-40	17	91-100	0
41-50	6	>100	3
51-60	8	closed (under renovation)	3

3) Primary Operations/Services

- Bathing area (2)
- Fishing pier (2)
- Playground (3)
- Barbecue/picnic area (4)
- Passive Recreation (5)
- Fuel Storage and distribution (2)
- Commuter service
- Education/museum (4)
- Storage and Maintenance of vessels (5)
- Public safety/Harbor patrol
- Wastewater treatment
- Electric Generating Facility (4)
- Sports (basketball/shuffleboard/horseshoes, tennis, etc) (4)
- Swimming (Beach/Pool) (6)
- Sailing (launch services, classes, social activities, etc) (3)
- Highway maintenance issues (2)
- Planning/economic development
- Golf
- Dining (restaurant, concession stand, etc.) (3)
- Boat ramp
- Marina
- Production/distribution of asphalt materials
- Full service hotel

- Historic structure
- Water company (extraction, treatment and distribution)
- Environmental clean-up
- Housing development

4) Which of the following statements best describes the type of access that is available to your facility? *(check only one)*

	Access Type	% of Responses
a)	This is a private facility - access is available only to the owner/operator; there are no members or patrons	21
b)	This is a private facility - access is available only to the owner/operator and patrons or members	14
c)	This is a private facility - access is available to the general public (i.e., entry is not restricted to the owner/operator, patrons and members)	18
d)	This is a public facility - access is available to the general public	36
e)	This is a public facility - access is limited individuals involved in government operations	11

5) Does your facility have a waterfront location?

NO 22 %
YES 78%

6) If your facility has a waterfront location, what benefit does your facility derive from its waterfront location (total is greater than 100 percent because of multiple responses)?

	Access Type	% of Responses
a)	The facility's operators gain direct access to the water for commercial vessel operation or similar purposes	43

b)	The facility's patrons/users gain direct access to the water for recreational activities such as boating, swimming, fishing, etc.	38
c)	The facility's patrons/users can walk to and/or along the shore at the facility	62
d)	The facility's patrons/users can view the water from the upland portion of the facility	67

7) Describe any significant recent improvements that have occurred at your facility:

- Landscaping (3)
- Parking lot
- Dolphin clusters replaced (Exxon Mobil, '99)
- Capital Improvements (3)
- Seawall replacement/renovation (3)
- New Bike/walkway
- Hazardous Waste Removal (2)
- Enclosed open observation area (to increase usable space)
- Arrival/addition of Phoenix (educational passenger vessel) to site
- Process improvement retrofit
- Addition of 2 gas turbine electric power generators
- Incorporation of Nassau County IDA
- Two-million dollar clubhouse renovation (North Shore Country Club)
- Dredging (by Tappen ramp)
- Decaying exterior removed and replaced (grist mill)
- New winch (improves access to water, Webb Inst.)
- Removal of USTs
- Installation of steel dike around UST
- Structural improvement to concession stand, restrooms and lifeguard station

8) Describe any significant improvements that are planned at your facility:

- Build observation deck overlooking harbor
- Restoration of gothic revival mill (Cedarmere)
- Upland Highway Mitigation
- Bike/Walkway Work
- Marina development (proposed)
- Additional process improvements

- New tennis courts (bid out for Hempstead Harbor Beach Park)
- Continuing capital improvements (painting, woodworking, etc) (4)
- Full restoration (2 - Powerhouse Park, Grist Mill)
- Beach stabilization
- Boat ramp improvements
- Additional banquet facilities
- Sea wall repairs
- Installation of sanitary sewer connection
- New gymnasium
- Update loading/unloading operations
- Dredging of Glen Cove Creek (on-going)
- Housing development – 11-acre site w/senior housing and public park

9) List a maximum of three specific conditions or circumstances in and around Hempstead Harbor that are most beneficial to the operation of your facility, in order of importance, with (1) being the most important:

(1)
- Water Quality (9)
- Sediment and erosion control
- Limit Access to area residents only (4)
- Upgrade facilities
- Easy access for barges (esp. Glen Cove Creek)
- Minimal boat traffic
- Access/Condition of Parking & Roadway (leading to facility)
- Relatively undeveloped nature of surrounding area
- Access to Harbor for all interested
- Use of harbor for commercial and pleasure craft
- General view of harbor (3)
- Tidal flushing
- Use of harbor water for cooling process (Key Span)
- Quiet (3)
- Development along Glen Cove Creek
- Hotel guests being able to use walkway
- Clear flow of water from mill ponds into harbor
- Extensive shoreline has potential for expanded public use
- Proximity to outside markets: New York Harbor, Nassau County

(2)
- Electric transmission system is adequate to deliver energy
- Control of vessel speed in anchorage area

- Glenwood Landing Redevelopment
- Stability of shoreline at head of harbor
- Glen Cove Breakwater

(3)
- Waterfront property w/access to beach and docks.
- Jetty between Crescent Beach and Webb Institute

10) List a maximum of three specific conditions or circumstances in and around Hempstead Harbor that currently hinder your facility from achieving an optimal level of usage or patronage, in order of importance, with (1) being the most important:

(1)
- Moratorium on development
- Water quality
- Lack of Parking
- Vehicular Access/Poor Roadway (2)
- Garbage & Debris washing up on shore (pieces of boats, moorings, floats, etc.)
- Dredging
- Lack of sufficient water in the Glen Cove Creek for safe operations
- Stormwater runoff (with high suspended solids). This impacts power station stormwater discharge.
- Reckless boating
- No waterfront
- Sedimentation emanating from construction sites
- Sand migration at boat ramps – hinders operations
- Noise and air pollution from electric plant and generators
- Fundraising for restoration work (2)
- Continuing perception of poor water quality

(2)
- Mis-informed/Ill-informed members of the public
- Condition of facility parking lot (2)
- More public parking needed
- Dogs (with their owners)
- General cleanup
- Unsightliness of power plant
- Security – break-ins on moored and stored boats

- No public dockage
- Shore Road traffic
- Limit commercial use of waterways

(3)
- High taxes for almost no capital improvements (basically empty land)
- New/improve docking
- Positioning of barges from sand and gravel operations block views

11) List a maximum of three specific actions (public or private) that you would like to see undertaken in the future which would enhance the operation of your facility, in order of importance, with (1) being the most important:

(1)
- Recognition of value of active waterfront facility
- Fundraising (for restoration and capital improvements) (2)
- Publicity for harbor area attractions
- Continued improvement of water quality (3)
- Control sediment in stormwater runoff
- Several stormwater outfalls located near beach
- Hempstead Harbor Beach Park is in need of a jetty to prevent erosion
- Land made available to waterfront for a marine/repair facility
- Increased sediment and erosion control enforcement/management (2)
- Removal of new gas-fired generators on Shore Road
- Complete dredging of Glen Cove Creek (2)
- Build walkway along the harbor
- Increase recreational usage of harbor/Limit commercial uses (2)

(2)
- Assurance that facility will remain active
- Continued harbor improvements; enhanced water quality (2)
- Completion of environmental remediation of Glen Cove Creek area
- Enforcement of dumping/littering overboard laws
- Increased harbor patrol
- Removal of gasoline tanks on Shore Road
- Appropriate harbor development

(3)
- Not another passive waterfront park
- Increased security on water and waterfront (2)
- More public waterfront access

12) Overall, which statement best expresses your expectations for the long-term viability and success of your facility?

Access Type		% of Responses
a)	The level of operation of the facility likely will increase over the long term	53
b)	The level of operation of the facility likely will remain about the same over the long term	47
c)	The level of operation of the facility likely will decrease somewhat over the long term, but the facility should still remain viable	0
d)	The facility likely will cease operations in the foreseeable future	0

CHAPTER 6

RECOMMENDATIONS AND IMPLEMENTATION

Chapter 5 identifies and describes key issues regarding Hempstead Harbor, as formulated by the HHPC, with technical assistance from Cashin Associates and input from the public, within the framework of the nine harbor management goals set forth in Section 1.5. The present chapter represents the culmination of the planning process for the HMP, and provides a program of recommended actions to address each issue, either by mitigating problems that hinder the harbor management goals or by taking advantage of opportunities that advance the harbor management goals.

Section 6.1 identifies the specific recommendations of this HMP, arranged by goal. Section 6.2 outlines an implementation strategy to accomplish the recommendations which are presented in Section 6.1, arranged by the category of action (i.e., general recommendations, projects, local laws, investigations, procedural actions, and policy standards).

6.1 RECOMMENDATIONS

This section follows that same format as Section 5.1, with the issues identified (in abbreviated form) under the respective goals, and relevant recommendations presented under each issue:

Goal #1: Ensure efficient and safe navigation and operating conditions in Hempstead Harbor.

Issues:

1-1 **Conflicts among certain existing harbor uses.**

Recommendations:

1. A Harbor Management Map has been prepared as part of this HMP in order to define more clearly various areas in the harbor that will be devoted to various uses. Based on the discussions conducted during meetings of the HHPC related to the preparation of this HMP, it was determined that no significant changes to the current water use plan were warranted. Therefore, Map 3-6, which illustrates existing water uses, shall serve as the proposed water use plan for this HMP.

2. The mooring procedures utilized by the aggregate trans-shipment facilities operating on the west side of the harbor to the north of Bar Beach should be reviewed, in order to correct deficiencies that have resulted in recent incidents of escaped barges. The existing laws and regulations governing the barge moorings are believed to be adequate, and it appears that the problem can be effectively addressed through stepped up enforcement (e.g., to ensure that the mooring equipment is maintained in proper condition, and to ensure that the number of barges tied to a mooring at any given time does not exceed the maximum allowed under the law). The Coast Guard's involvement should be sought to resolve this issue; for example that agency can be requested to verify the physical adequacy of the mooring equipment on a regular basis. In addition, the bonding requirements for the barge operators should be reviewed, and adequate bonding should be maintained in place at all times, so that the financial resources of the barge operators are readily accessible to address any future incidents.

3. Enhanced public education of recreational boaters will provide this key user group with a better understanding of the operations of large vessels associated with commercial/industrial uses in the harbor and, thereby, will reduce the potential for future conflicts.

4. Continued interaction with key harbor users, as undertaken or facilitated by the HHPC, will ensure that ongoing dialogue occurs to address conflicts.

1-2 **Speeding vessels.**

Recommendations:

1. Coordinated patrols and pooling of resources will provide enhanced regulation and oversight in the harbor, which will allow more effective apprehension of boaters who violate local speed limits (and other vessel use regulations) — see further discussion under Recommendation 1-5.

2. Enhanced education should be undertaken to improve the boating public's knowledge of local speed limit regulations and other general rules of proper boating conduct and etiquette.

1-3 **Need for dredging, as balanced against natural resource protection.**

Recommendations:

1. The federal channel in Glen Cove Creek should continue to be maintained by timely dredging as needed. This maintenance dredging is in the public interest, based on the numerous water-dependent uses that are present in the creek, and is essential to the long-term viability of these uses.

2. The shorefront facilities (i.e., basins, docking areas, etc.) of water-dependent uses should continue to undergo maintenance dredging as needed. The costs of this dredging should be borne by the respective owners and/or operators of the involved facilities.

3. An extensive study which involved substantial public participation arrived at the conclusion that dredging in the lower harbor, in the Roslyn waterfront area, is not feasible. The information compiled during that investigation revealed minimal public support for this type of project and indicated that the requisite permits would be difficult to obtain due to environmental concerns and questions as to whether such a project would conform to state and federal coastal policies. Furthermore, the current draft version *Village of Roslyn Waterfront Enhancement Strategy* recommends against a plan for this area whose success relies on dredging of the adjacent portion of the harbor. However, "re-profiling" of the harbor bottom along the Roslyn waterfront could be considered as a possible means to facilitate small vessel access (i.e., hand-powered craft such as canoes and kayaks) and to improve water circulation in the lower harbor.

4. As a matter of general policy, consistent with New York State coastal management policies, dredged materials should be employed for beneficial reuse whenever and wherever practicable. In order to facilitate the advancement of this policy, any of the member municipalities that intends to undertake dredging should coordinate this action with the HHPC to discuss possible means of beneficial reuse.

   It is important to recognize that it may be somewhat problematic to implement this policy as a practical matter. The areas that require dredging in Hempstead Harbor typically do not yield clean sand and, therefore, are not suitable for beach nourishment (which is the most common means of beneficial reuse).

1-4 **Proliferation of docking structures.**

Recommendations:

1. Although this issue currently does not appear to represent a significant problem in the Hempstead Harbor area, it is advisable to review the extent of applications being submitted for private docking structures throughout the harbor on a periodic basis. If this review reveals that a significant number of applications are being received, it may be necessary to assess the need for more stringent controls.

2. A determination should be made as to whether it would be desirable to undertake periodic monitoring of actual conditions along the shoreline, possibly by means of aerial photography or visual survey via helicopter, in order to identify new docking structures that may not be covered by permits issued by the respective municipalities.

3. In evaluating applications for any new docking structure, appropriate consideration should be given to the degree to which the proposed structure would interfere with pedestrian passage along the shoreline. This issue is of importance primarily in the outer harbor (especially in the Village of Sands Point and northern portion of the City of Glen Cove), where the intertidal zone generally is accessible at the present time.

1-5 **Inconsistent oversight and enforcement.**

Recommendations:

1. Develop inter-municipal agreements, or another suitable mechanism, to allow municipalities that presently engage in harbor patrols (i.e., the Towns of North Hempstead and Oyster Bay, and the City of Glen Cove) to extend their enforcement authority throughout the entire harbor. Currently, municipal patrol personnel in the harbor are only authorized to undertake enforcement actions within their respective areas of jurisdiction. The recommended action would create a formal means of providing regulatory oversight across municipal boundaries, including areas within the incorporated villages which currently lack on-water patrols, for the benefit of all harbor users.

The recommended inter-municipal agreements pertaining to harbor patrols should include provisions establishing an equitable and mutually acceptable funding formula to defray the associated operational costs for the municipalities that would be providing this service.

2. Develop inter-municipal agreements, or another suitable mechanism, to coordinate activities among the municipalities which presently engage in harbor patrols, so as to ensure that these resources are utilized as efficiently as possible. For example, the two towns could alternate their presence in the harbor, based on a coordinated schedule, in order to increase the overall amount of time during which the harbor is subject to patrol.

1-6 **Inadequate navigational aids in the harbor.**

Recommendations:

1. The municipalities that share Hempstead Harbor should systematically identify and list the individual aids to navigation which do not appear to be assigned to the jurisdiction of any specific entity and determine which agency or agencies possibly could have had original jurisdiction over each item on that list. In any case where it is clear that only one agency is involved, that agency should assume maintenance responsibility over the given navigation aid. In cases where it is not clear which agency has jurisdiction, the involved parties (perhaps facilitated by the HHMP) should negotiate a solution whereby responsibility is divided equitably among the involved agencies for all of the navigation aids in question. The U.S. Coast Guard should be consulted during this review process to ascertain the extent of that agency's jurisdiction over aids to navigation in the harbor.

2. It does not appear at the present time that the installation of aids to navigation in the inner harbor is justified, based on the current level of vessel activity. However, if the use of the lower harbor for boating is significantly increased in the future, especially if dredging is undertaken in this area, the need for navigational aids should be re-evaluated.

Goal #2: Protect Hempstead Harbor's water-dependent uses, and promote the siting of new water-dependent uses at suitable locations, without impacting important natural resources.

Issues:

2-1 **Threat of displacement of water-dependent uses.**

Recommendations:

1. The City of Glen Cove should proceed with its plans to redevelop the waterfront along Glen Cove Creek with a mix of uses, including a variety of water-dependent uses, as well as other appropriate uses that will provide stability to the area and will support and sustain the water-dependent uses, consistent with the recommendations of *The Glen Cove Creek Revitalization Plan: Area Analysis, Master Plan and Site Design Studies* (December 1996).

2. The draft HMP recommendation for the Town of Oyster Bay to establish waterfront zoning in accordance the *Glenwood Landing Waterfront Redevelopment and Revitalization Plan: Summary of Recommendations to the Town Board* (October 2002) has already been completed. This rezoning was enacted by the Oyster Bay Town Board in January 2004. Any redevelopment occurring in this area should conform to the requirements of the new zoning.

3. The Town of North Hempstead is encouraged to undertake a comprehensive planning analysis of its waterfront in Glenwood Landing in order formulate objectives for the redevelopment of this area, which includes a number of key parcels (i.e., the Hin Fin/Harbor Fuel and Shore Realty sites), and to evaluate whether the current industrial zoning of these parcels is appropriate to achieve those objectives.

4. The Town of North Hempstead also is encouraged to examine the appropriateness of the current residential zoning of the parcel on which the aggregate trans-shipment facility is situated on the west side of the harbor. Residential zoning of this property makes it difficult to redevelop this property in the future with water-dependent uses.

5. The City of Glen Cove is encouraged to continue seeking re-establishment of commuter ferry operations based in Glen Cove Creek.

2-2 **Problematic economic factors for long-term survival of water-dependent uses.**

Recommendations: See the discussion under Recommendation 2-1, which addresses measures providing for mixed use development along the waterfront, in order to provide economic support to the critical water-dependent uses.

2-3 **Variability in the types of water-dependent uses that are appropriate in different portions of the harbor.**

Recommendations: With the possible exceptions noted under Recommendation 2-1 relative to certain key parcels in the Town of North Hempstead, the existing zoning of the harborfront is consistent with the long-term land use objectives of the harbor communities. No further action is recommended at this time to address Issue 2-3.

2-4 **Sensitivity of the recreational use of beaches (an important water-dependent use) to pollution.**

Recommendations: See the discussion under Recommendation 5-6, which addresses beach closures caused by degraded water quality in the harbor.

Goal #3: Redevelop vacant and underutilized waterfront land on Hempstead Harbor with appropriate uses.

Issues:

3-1 **Economic revitalization opportunities versus potential environmental impacts due to development/redevelopment of vacant and underutilized properties.**

Recommendations:

1. Review of an application for the development/redevelopment of any of the 21 key parcels which comprised the Quality Communities component of

the HMP[1] should include an evaluation of the project's balance between economic revitalization and environmental impacts.

2. An investigation should be undertaken to identify land acquisition priorities in the harbor area, focusing on the 21 key parcels included in the Quality Communities component of the HMP. This study should utilize a single rating system for the entire area, based on objective criteria to allow for a meaningful comparison among the candidate sites. The criteria already developed by the Towns of North Hempstead and Oyster Bay for their Environmental Legacy Fund and Save Environmental Assets Fund programs, respectively, can be used as the basis for these evaluations.

3. Overall, public land acquisition within the harbor area should be suitably balanced with appropriate revenue-generating uses in order to avoid unduly burdening public finances.

4. Planning for public acquisition of lands currently in private ownership should take appropriate account of the fact that many of the existing public recreational facilities are underutilized at the present time. Acquisition should not be undertaken as a means of curtailing development, but rather should be based on a specific, identified need for expanded public access.

5. Development of the Sea Isle property in Glen Cove Creek, if undertaken at all, should be designed to minimize impacts to natural resources. This should include the provision of adequate setbacks from tidal wetlands, as well as sufficient storage and treatment capacity for stormwater discharges. Consideration should be given to the public acquisition and preservation of this sensitive site as part of the recommended investigation to identify land acquisition priorities (see Recommendation 3-1.2, above).

[1] Some recommendations place special focus on the 21 key parcels of vacant and underutilized land that were included in the Quality Communities component of the HMP, presented in Chapter 4. However, this is not intended to limit future evaluations only to those 21 parcels. These recommendations also should be applied, as appropriate, to actions proposed on any other property within the harbor management area delineated on Map 3-1.

3-2 **Potential for cumulative impacts due to redevelopment of vacant and underutilized properties.**

Recommendations:

1. Review of an application for the development/redevelopment of any of the 21 key parcels that were included in the Quality Communities component of the HMP should take into consideration the potential cumulative environmental impacts on the harbor that could result from the development/redevelopment of all 21 parcels. This is not meant to introduce onerous requirements to the review of a project proposal for any given parcel. Rather, the intent is to ensure that such projects are undertaken with proper consideration being given to the harbor-wide goals and objectives of this HMP. Therefore, it is recommended that a detailed assessment of consistency with the recommendations of this HMP be included as part of the review process pursuant to the State Environmental Quality Review Act (SEQRA) for any development application involving the 21 key parcels.

3-3 **Redevelopment of some key parcels (e.g., the Shore Realty and Harbor Fuel/Hin Fin sites) has been complicated by environmental contamination.**

Recommendations:

1. The level of environmental remediation for any contaminated site in the Hempstead Harbor area should be targeted to the recommended land use, as specified in this HMP or other relevant planning document, rather than allowing the presence of contamination to constrain or dictate future use.

2. The HHPC should be invited to participate as an interested party in the public review process for any property undergoing remediation in the Hempstead Harbor area, in order to ensure that the goals and objectives set forth in this HMP are taken into consideration by the reviewing agency or agencies.

3. The HHPC should participate as an interested party in the SEQRA review process for any proposed development action involving one of the key parcels in the HMP area.

Goal #4: Increase water-related recreational opportunities within Hempstead Harbor and along the harbor's shoreline, and increase public access to the waterfront.

Issues:

4-1 **Importance of existing public access to the waterfront to the overall quality of life in the harbor area.**

Recommendations:

1. Existing facilities that provide public access to the harbor should be maintained.

2. Actions that would reduce the level or quality of public access should be avoided. In any case where this is not feasible, compensatory access should be provided at a suitable location.

3. Public access to the waterfront should be enhanced, where practicable, through the restoration of existing facilities that have fallen into disuse because of deficient maintenance.

4. Suitable strategies should be formulated to augment the use of current public access locations. Consideration should be given to a variety of options to achieve this objective, including improved aesthetics, expanded recreational programs, facilities geared toward under-served segments of the population (e.g., skate park), and possibly even commercial vendors at suitable locations and under appropriate circumstances. Proper weight should be given to the environmental implications of each such option under consideration.

5. Improvements to public access facilities at a given location should be compatible with surrounding uses. Caution should be exercised to avoid establishing intensive recreational activities in areas where nearby sensitive uses (especially residential neighborhoods) would be adversely impacted.

6. Planning for significant expansion of facilities for public access to the harbor should include early opportunities for public participation.

7. The HHPC should work with its member communities to identify specific projects that should be undertaken to enhance public access to the harbor, and should assist in procuring outside funding to facilitate implementation of these projects. A number of studies have been completed by individual municipalities which identify local recommendations for projects to augment public access to the harbor. These studies, which should be used as a basis for identifying future actions of this type, include, but are not necessarily limited to: *The Glen Cove Creek Revitalization Plan*; *Incorporated Village of Sea Cliff Shoreline Study,* September 1996; *Village of Roslyn Waterfront Enhancement Strategy*, in progress; and *Glenwood Landing Waterfront Redevelopment and Revitalization Plan: Summary of Recommendations to the Town Board,* October 2002.

8. Appropriate public access to the waterfront should be provided in conjunction with any development or redevelopment project involving the 21 key parcels that were included in the Quality Communities component of the HMP.

4-2 **Significant parking and roadway constraints in the harbor area.**

Recommendations:

1. An analysis should be completed of existing parking and roadway facilities in the Hempstead Harbor area to develop a program of specific improvements. A number of prior studies — including *The Glen Cove Creek Revitalization Plan*; *Village of Roslyn Waterfront Enhancement Strategy*, in progress; and *Glenwood Landing Waterfront Redevelopment and Revitalization Plan: Summary of Recommendations to the Town Board*, October 2002 — address this issue to some degree, and should be consulted before taking any specific action in this regard.

2. Any new parking facilities or other paved surfaces should be constructed with sufficient stormwater retention capacity to prevent water quality impacts to Hempstead Harbor. Wherever practicable, such projects should be designed to mitigate existing stormwater discharges to the harbor.

3. See also Recommendations 4-3 and 7-1 with regard to enhanced trailway linkages.

4-3 **Discontinuity of trails and walkways along the harbor's shoreline.**

Recommendations:

1. Future actions to address this issue should seek to span as many existing gaps as possible in the existing trail/walkway system, with the long-term objective being to maximize the length of continuous trailway access along the entire harborfront.

2. Public acquisition should be pursued for the three remaining parcels of privately-owned land on the west shore of Hempstead Harbor, south of Bar Beach, in order to create a continuous trailway linking Bar Beach with the southern end of the harbor. In lieu of outright acquisition, easements or other suitable arrangements should be sought in order to secure the desired access. The southerly end of this trail segment should be linked to the Village of Roslyn, through the Village of Flower Hill, and then should continue northward through the Village of Roslyn.

3. Redevelopment of the Glenwood Landing area should seek to create continuous pedestrian access along the waterfront which at its northerly end connects to the existing promenade on the west side of Shore Road to the north of Tappen Beach. This project is identified as a priority in the New York State *Open Space Conservation Plan*.

4. Redevelopment of the Glen Cove Creek area should include a continuous waterfront promenade along the northern shore of the creek to link new facilities with points of interest to the east.

5. To the extent practicable, any development or redevelopment project involving any of the 21 key parcels that were included in the Quality Communities component of the HMP should provide appropriate public access along the waterfront, especially if such access would be linked to existing pedestrian facilities.

6. All new trailway segments should comply with the requirements of the Americans with Disabilities Act for handicapped access, wherever appropriate.

4-4 **Inadequacy of facilities for hand-launched boats.**

Recommendations:

1. New facilities for hand-launched boats (canoes, kayaks, etc.) should be provided at appropriate locations on the harborfront. Actions taken to implement this recommendation should be directed at eventually creating a Hempstead Harbor "Blueway", which is an integrated network of linked canoeing and kayaking trails.

2. The evaluation of candidate sites for hand-launched boats should be based on accessibility from the land side and into the harbor, availability of sufficient parking, potential for environmental impacts that may be caused by boat launching, and other relevant factors. It appears that such facilities could be included in the Hempstead Harbor Shoreline Trail project. Additionally, the Draft *Village of Roslyn Waterfront Enhancement Strategy* recommends that this type of facility be included in the planned Skillman Street Park project. The terminus of Scudders Lane in Glenwood Landing, between the Harbor Fuel/Hin Fin and Shore Realty properties, also has been identified as a priority location for this type of facility.

Goal #5: Protect and enhance Hempstead Harbor's natural environment and open space resources, including surface water quality, wetlands, coastal fish and wildlife habitats, upland natural areas, and important viewsheds.

Issues:

5-1 **Overall threats to natural resources.**

Recommendations:

1. As feasible, wetland restoration projects should be undertaken at appropriate locations in the harbor. The westerly shoreline in the lower harbor is a key area that should continue to be targeted for such projects. Dosoris Pond and Captain's Cove have been identified by the City of Glen Cove as priority locations of this type of project.

2. Public education should be expanded regarding the value of the harbor's natural resources and the threats posed to these resources by human

activities. Singled out for special consideration are tidal flats, which are abundant in the lower harbor, and which are productive and ecologically important, contrary to what appears to be fairly common belief.

5-2 **Impacts to important natural resources caused by certain in-water uses.**

Recommendations:

1. Enhance education and enforcement with respect to vessel operations in Hempstead Harbor in order to advance the objective of minimizing damage to sensitive ecological resources caused by this activity. See further discussion under Recommendations 9-2 (education) and 1-5 (enforcement).

2. Review existing local regulations governing vessel operations (e.g., speed limits, restricted areas, etc.) to determine whether the need for more stringent regulations is indicated.

3. Install enhanced signage to notify operators of personal watercraft regarding the prohibition against the use of these vessels in the lower harbor.

5-3 **Water quality impacts due to stormwater discharges.**

Recommendations:

1. The HHPC and the member municipalities should pursue the recommended strategies for stormwater mitigation identified in the *Water Quality Improvement Plan for Hempstead Harbor* (May 1998). This should include the pursuit of local laws for the protection of steep slopes, stormwater management, and erosion and sediment control, as well as continuing studies to identify and characterize point sources of stormwater discharges to the harbor (i.e., stormwater outfalls).

2. The harbor municipalities should comply with the task requirements for stormwater mitigation which are set forth in their respective Notices of Intent filed for State Pollution Discharge Elimination System (SPDES) permit coverage from NYSDEC under the U.S. Environmental Protection Agency's Phase II program.

5-4 **Water quality impacts due to subsurface sewage discharges.**

Recommendations:

1. The harbor municipalities should comply with the task requirements for mitigating sanitary wastewater discharges which are set forth in their respective Notices of Intent filed for SPDES permit coverage from NYSDEC under the U.S. Environmental Protection Agency's Phase II program. This should include appropriate measures to detect, and mitigate, illicit connections of sanitary discharges to stormwater conveyances.

2. An investigation should be undertaken to determine the magnitude of the water quality impact in Hempstead Harbor caused by effluent from subsurface sewage disposal systems (SSDSs). If this recommended investigation indicates that this SSDSs are a significant factor in the overall loading of coliform bacteria to the harbor, the involved municipalities should work cooperatively to formulate a joint plan of action to provide effective mitigation, including an evaluation of the feasibility of instituting a mandatory program for the routine maintenance and restoration of SSDSs.

3. The harbor municipalities that rely on SSDSs for sewage disposal should consider the desirability of local laws to require the installation of a septic tank for any SSDS replacement project, regardless of whether a septic tank is present in the existing system.

4. The draft HMP recommendation for the Town of Oyster Bay to rezone the North Shore Country Club property, as recommended in the *Glenwood Landing Waterfront Redevelopment and Revitalization Plan*, from R1-10 (single-family residence on minimum 10,000-square foot lots) to R1-20 (single-family residence on minimum 20,000-square foot lots), has already been completed. This rezoning, which was enacted by the Oyster Bay Town Board in January 2004, essentially halves the development yield of the subject 83.5-acre parcel and, thereby, effects a commensurate reduction in the potential for water quality impacts related to sanitary waste disposal in this area which is not served by municipal sewage collection and treatment facilities.

5. Any proposal for large-scale development in the unsewered area of the Hempstead Harbor waterfront should be closely scrutinized with respect to the adequacy of sewage disposal measures. The Harbor Fuel/Hin Fin and Shore Realty sites in the Town of North Hempstead portion of the Glenwood Landing waterfront area have been identified as being of particular concern in this regard because of pending or prior proposals for residential development (which is a relatively high-volume sanitary waste generator) on these properties.

   The zoning of the Town of Oyster Bay portion of Glenwood Landing within the HMP area prohibits residential uses. However, certain uses that are permitted in this new waterfront zoning district (e.g., restaurants) generate relatively large volumes of sanitary wastewater, and also would be of concern with respect to potential sewage disposal impacts.

6. Enhanced public education should be provided with respect to the environmental impacts caused by improperly functioning SSDSs and the need for regular maintenance.

7. Further investigation and analysis should be undertaken to seek a practical and cost-effective plan to introduce municipal sewage collection into priority areas which presently lack such service. The recommended study should include the communities of Sea Cliff and Glenwood Landing on the east side of the harbor, and the Beacon Hill Colony in the Port Washington area on the west side of the harbor.

5-5 **Water quality impacts due to vessel waste discharges.**

Recommendations:

1. The harbor communities should jointly pursue federal designation of the entire harbor area as a vessel waste no-discharge zone. This will entail the submission of a petition to NYSDEC, which would then make a formal application to the U.S. Environmental Protection Agency. The application will be required to include various components (e.g., provision of adequate vessel waste pumpout facilities to serve the harbor's boating population, public education program, oversight and enforcement capabilities) which are necessary to ensure effectiveness.

2. Even in the absence of a No-Discharge Zone application, public education should be enhanced in order to improve utilization of existing pumpout facilities.

3. Any application for a new marina facility, or for substantial improvement or expansion to an existing facility, should be required to include a vessel waste pumpout facility that is available to the public at no cost.

4. The HHPC should assist the member municipalities in identifying one or more possible public sites for additional pumpout facilities, and in preparing grant applications to obtain funding for the installation of these facilities at the selected location(s). Siting priorities should be based largely on the convenience of the boating public's access to the candidate locations.

   Funding should also be sought for the proper maintenance of existing vessel waste pumpout facilities.

5-6 **Beach and shellfish area closures caused by degraded water quality.**

Recommendations:

1. The HHPC and the member municipalities should continue to pursue the recommended non-point source mitigation strategies identified in the *Water Quality Improvement Plan for Hempstead Harbor* (May 1998).

2. Water quality monitoring should continue in the harbor, particularly to track trends in coliform bacterial concentrations. These data can be used for determining whether it may be appropriate at some time in the future to request NYSDEC to evaluate the possibility of allowing conditional or seasonal openings of shellfish beds, especially in the outer harbor. This should be viewed as a long-term objective of implementing the non-point source mitigation recommendations of the *Water Quality Improvement Plan*.

   It is important to recognize that collection of water quality data is only one aspect, albeit an important aspect, of an overall program to assess water quality conditions for the purpose of tracking trends and formulating mitigation strategies. Analysis and interpretation of the data that are collected also are vital to obtaining useful information. Large quantities of data that have already been compiled for Hempstead Harbor have not been

subject to technical evaluation because of a lack of funding. Therefore, in addition to continued monitoring, it also is recommended that funding be sought for the analysis and interpretation of existing and future water quality data.

3. Any initiative seeking action by NYSDEC to reopen shellfish beds in Hempstead Harbor must include the participation of representatives of the local baymen who desire to harvest this area.

5-7 **Potential impacts posed by petroleum facilities.**

Recommendations:

1. The HHPC should maintain an ongoing dialogue with the operators of the major petroleum transfer and storage facilities in the Hempstead Harbor area (e.g., Exxon-Mobil terminal, Harbor Fuel facility, and Windsor Fuel Company), in order to ensure that their oil spill contingency plans are adequate and up-to-date.

2. Suitable oil spill contingency plans should be developed by the operators of vessel fueling facilities at marinas, yacht clubs, and similar facilities on the harbor.

3. Containment booms should be deployed whenever practicable at facilities that are used for petroleum storage, transfer or dispensing in order to prevent spills of petroleum product from dispersing into the harbor.

5-8 **Restricted tidal circulation reportedly causes poor water quality in the lower harbor.**

Recommendations:

1. Further investigation should be conducted, by means of continued water quality testing on a regular basis, to determine the degree (if any) to which the lower harbor may be experiencing water quality deterioration due to constrained tidal circulation or other causes.

5-9 **Aesthetic impacts due to floatable debris.**

Recommendations:

1. Adequate waste collection receptacles should be provided at locations where the public congregates along the harborfront. These receptacles should be emptied as necessary to prevent trash from overflowing or otherwise being transported onto the ground, where it can be carried to the harbor.

2. The harbor municipalities should clean out their stormwater drainage systems as necessary to prevent gutter trash from being discharged to the harbor.

3. Stepped up surveillance and enforcement should be undertaken to identify derelict structures within the harbor and along its shoreline and to require the responsible parties to remove or refurbish said structures in order to prevent them from becoming a source of water-borne debris as a result of damage caused by wind and waves.

4. Public education efforts should be augmented as necessary to reinforce the importance of litter prevention, both with respect to activities on recreational boats and in the surrounding upland area.

5-10 **Deterioration of the natural environment due to contamination of former or active industrial properties.**

Recommendations: See the discussion under Recommendation 3-3.

5-11 **Adverse effects to natural resources due to new shore protection in areas that previously lacked such structures.**

Recommendations:

1. The harbor municipalities should establish a "need-based" mechanism for evaluating applications for new shoreline structures, whereby structural shoreline protection would be approvable only at locations where there is objective evidence (as documented by the applicant) of active or recent erosion or storm damage on the subject property or adjoining lands.

2. Each and every permit application for structural shoreline protection should include a long-term maintenance program that assures a design life of at least 20 years.

5-12 **Threats to the harbor's open space and visual resources.**

Recommendations:

1. Maintain or restore original landforms (e.g., bluffs, beaches, natural drainageways and streams, wetlands, etc.), except where altered landforms provide useful screening or contribute to scenic quality.

2. Avoid structures or activities that introduce visual interruptions to natural landscapes including: intrusive artificial light sources; fragmentation of and structural intrusion into open space areas; and changes to the continuity and configuration of natural shorelines and associated vegetation.

3. Preserve those vacant parcels that contribute significantly to the visual quality of the harbor, including the western shoreline of the inner harbor, south of Bar Beach.

4. Restore deteriorated visual elements and remove degraded elements, including vacant or underutilized industrial properties.

5. Recognize water-dependent uses as important additions to the visual interest of the harbor. Require measures during the site plan review process that achieve the aesthetic quality objectives of this HMP, so as to ensure that the potential visual impacts of new or modified water-dependent development are sufficiently mitigated. Provide adequate maintenance to the structures and facilities of water-dependent uses, so as to minimize visual impacts over the long term.

6. Promote the use of native plant species in landscape designs during the site plan review process, so as to provide visual continuity and consistency with the natural setting of the area.

7. The HHPC should proceed with the planned project to standardize informational signage around the harbor.

Goal #6: Preserve important historical resources along the waterfront of Hempstead Harbor.

Issues:

6-1 **Lack of a comprehensive investigation to identify and describe important historic resources.**

Recommendations:

1. Local historians should cooperatively undertake a comprehensive inventory and analysis of historic resources in the entire harbor area. Much of this investigation would entail the integration of existing information for areas that already have been studied; some areas would require a more detailed evaluation of the resources present. The overall objective is to create a single inventory and analysis which provides for a more thorough understanding of the historic importance of Hempstead Harbor as a whole.

6-2 **Adequacy of existing laws and regulations in protecting historic resources.**

Recommendations:

1. Although eight all of the Hempstead Harbor municipalities have enacted local laws for the protection of important historic resources, these laws should be reviewed to assess their effectiveness. It may be useful to undertake this assessment cooperatively, so that advantages and drawbacks of the various local laws can be taken into consideration in crafting appropriate amendments for each municipality.

6-3 **Opportunity for enhancing public appreciation of the historic importance of the harbor.**

Recommendations:

1. The HHPC should coordinate efforts to install informational signage at appropriate locations around the harbor. Such signage should be directed at providing interesting facts regarding local historical events and people, land and water uses, settlement patterns, and similar information. The recommended signs should be placed at strategic locations (e.g.,

walkways, bicycle paths, sitting areas, overlooks, etc.) with the intent of maximizing exposure to potentially interested members of the public.

2. Whenever practicable, historic resources should be open to the public, in order to provide opportunities for public appreciation of the harbor area's historic heritage.

6-4 **Significant impacts to the historically important shellfishing and lobstering industries based in the harbor due to environmental degradation.**

Recommendations: See the discussion under Recommendation 5-6.2 regarding efforts to improve harbor water quality in order to re-establish shellfish harvesting. As discussed under Issue 6-4 in Section 5.1, it is uncertain whether Hempstead Harbor will once again become a significant base of lobstering activity in the foreseeable future.

Goal #7: Improve linkages between the Hempstead Harbor waterfront and adjacent downtown areas.

Issues:

7-1 **Opportunities to improve the vitality of downtown areas while concurrently enhancing public access to the water.**

Recommendations:

1. Efforts to revitalize Glen Cove, Sea Cliff, Roslyn, and Glenwood Landing via enhanced connections to the adjacent segments of the harborfront should conform to the recommendations of the respective planning studies that have been completed for these four areas (i.e., *The Glen Cove Creek Revitalization Plan*; *Incorporated Village of Sea Cliff Shoreline Study*, September 1996; *Village of Roslyn Waterfront Enhancement Strategy*, in progress; and *Glenwood Landing Waterfront Redevelopment and Revitalization Plan: Summary of Recommendations to the Town Board*, October 2002), and which were developed through public participation processes to ensure that they are representative of community goals and objectives.

2. Additional opportunities for linking downtown areas to adjacent points of interest should be pursued, as appropriate. The main objective of such action should be to augment interconnections in a manner that both serves

the benefit of the involved downtown areas and enhances the use of public facilities in adjacent areas. Such linkages also should be undertaken with a vision toward advancing the specific objectives set forth under Recommendation 4-3.

Goal #8: Engage in a collaborative effort among the municipalities surrounding Hempstead Harbor, by means of innovative inter-municipal planning and community development techniques that link environmental protection, economic prosperity, and community well-being, so as to ensure effective long-term community, regional, and watershed vitality.

Issues:

8-1 **Importance of participation by private stakeholders.**

Recommendations:

1. Using the list of private stakeholders that was compiled as part of the planning process for this HMP, the HHPC should continue to seek input from and provide information to these parties throughout the implementation phase of the HMP, in order to maintain their support for HMP initiatives and to ensure that their interests continue to be properly served.

8-2 **Need for cooperative planning.**

Recommendations:

1. The HHPC should continue to serve the critical role of facilitator during implementation phase of the HMP in order to ensure that the harbor-wide goals and objectives set forth in this document are advanced to the maximum extent possible.

8-3 **Problems regarding inconsistent rules and requirements across municipal boundaries.**

Recommendations:

1. The eight Hempstead Harbor municipalities should adopt a common Waterways Local Law which establishes uniform standards for vessel operations throughout the harbor. This can be accomplished in each

involved municipality either by adopting a Hempstead Harbor Waterways Local Law (which can be based upon a model provided by the New York State Department of State) in its entirety, or by incorporating standards from the Waterways Local Law into its existing municipal code. The recommended law(s) may address the following topics, which are modeled after a local law that was adopted for Port Jefferson Harbor:

- Statement of purpose, which may include protection of Hempstead Harbor's sensitive natural resources, need for a cooperative approach among the harbor's eight local municipalities in order to minimize conflicts among the various harbor users, enhancement of public safety, minimizing navigational impairments, protecting public and private lands, and ensuring adequate public access.

- Definitions, the exact nature of which obviously will depend upon the specific regulations and standards that are included in the law(s).

- Establishment of harbor use areas, based upon the waterways map depicted in the adopted Harbor Management Plan (see Recommendation 1-1.1), including vessel exclusion zones, such as the personal watercraft exclusion area in the lower harbor.

- Standards for vessel speed limits, including specific speed limits assigned to specific areas of the harbor, as based upon the presence of navigational impairments or sensitive natural resources, and other relevant variables.

- Regulations governing anchoring, including the identification of areas where this activity will be prohibited, and provisions for emergency anchoring.

- General standards for the use of the harbor, including those governing prudent vessel operation, rafting, discharge of pollutants, generation of noise, protection of vegetated wetlands and other natural resources.

- Regulations governing mooring, including the designation of separate mooring areas for recreational vessels and barges, establishment of minimum tackle standards, requirements for the

maintenance of moorings, delineation of the mooring season, and provisions for the inspection of moorings.

- Provisions for enforcement and penalties for offenses, including procedures to address impounded or abandoned vessels.

8-4 **Problems regarding inadequate coordination of the review of proposed projects among neighboring municipalities.**

Recommendations:

1. A suitable mechanism should be established to ensure that appropriate notification is provided to all interested parties, even across municipal boundaries, regarding proposed actions that may pose the potential for significant impacts to the harbor. One possible way to accomplish this objective is for the HHPC to be automatically included on the circulation lists for notices issued by all of the municipal agencies in the harbor area (e.g., municipal boards/councils, zoning board, planning boards, architectural review boards, etc.), and the HHPC could distribute this information to the other member municipalities.

8-5 **Potential complications caused by multi-layered, overlapping jurisdictional authority.**

Recommendations: The HMP process did not reveal that overlapping jurisdictions was a significant problem in the Hempstead Harbor area. See Recommendation 1-5 for discussion of approaches to address the issue of inconsistent oversight and enforcement in the harbor, including disparities across municipal boundaries.

8-6 **Importance of effective prioritization of future actions.**

Recommendations: The HHPC has developed priority rankings for recommended implementation actions, as presented in Section 6.2 of this report.

Goal #9: Recognize and build upon the unique characteristics and circumstances of Hempstead Harbor and its watershed in developing approaches to the following concepts: revitalizing existing communities and promoting livable neighborhoods; preserving open space and critical environmental resources; encouraging sustainable economic development; improving partnerships, service-sharing arrangements, and collaborative projects; and heightening public awareness.

Issues:

9-1 **Impacts on quality of life in the harbor area due to certain uses.**

Recommendations:

1. The HHPC should mediate discussions between the involved parties (i.e., aggregate barge operators and neighboring residents) in an effort to identify and implement possible solutions.

9-2 **Importance of an effective public education program.**

Recommendations:

1. A comprehensive program of public education should be developed for the Hempstead Harbor area. This program should include, but not necessarily be limited to, the following components:

   - vessel operations, including safe and courteous boating, proper disposal of vessel wastes, avoidance of environmentally sensitive areas, etc.;

   - non-point source abatement, including proper maintenance of subsurface sewage disposal systems, proper disposal of household hazardous wastes, proper landscape maintenance techniques, etc.

   - protection of natural resources, including environmental stewardship initiatives;

   - litter control;

   - appreciation of local historic resources, including appropriately placed informational signage; and

   - explanation of the implications of the pending amendment to the standards for determining when beach closures should occur (i.e., possible use of the enterococcus indicator organism, instead of the coliform indicators currently in use), if this amendment is enacted.

2. The harbor municipalities should comply with the task requirements for public education and involvement which are set forth in their respective Notices of Intent filed for SPDES permit coverage from NYSDEC under the U.S. Environmental Protection Agency's Phase II program.

6.2 IMPLEMENTATION STRATEGY

Implementation of the recommendations presented in Section 6.1 will require a series of actions by the nine municipalities which share the Hempstead Harbor shoreline (including one county, two towns, one city, and five incorporated villages), in conjunction with the HHPC. The implementation program will start with all of the municipalities adopting the HMP via resolution.

The tables in Sections 6.2.1 through 6.2.6, below, summarize the actions that will be required or which are recommended in order to advance the nine HMP goals. These actions are grouped by category (i.e., general recommendations, recommended projects, recommended local laws, recommended investigations, recommended procedural actions, and recommended policy standards).

Each of the HMP implementation actions has been assigned a "Priority Ranking". These rankings were obtained by circulating to the nine member municipalities a "Priority Ratings Form" which listed all of the implementation strategies that were previously identified by the HHPC. Each municipality was asked to assign priority rankings to the various implementation strategies according to the following key:

5 = Very high priority
4 = High priority
3 = Moderate Priority
2 = Low Priority
1 = Very low Priority
0 = Not a Priority at all

The instructions provided with the "Priority Ratings Form" included the following:

- Write in a rating for each item in the following tables.
- Review you initial ratings and amend them as appropriate.
- Try to create a good spread in your rating values. This will ensure that the final tally, averaging all of the responses received from the Committee, truly creates a range of priorities which will help to guide future decision-making for harbor protection and improvements.

All nine HHPC completed a "Priority Ratings Form", although not all of the responses were completed with numerical rankings on every form.

The "Average Score" for each implementation action was computed as the arithmetic mean of the responses provided by the HHPC municipalities. Items that were answered with "n/a", "no response", or similar notation were not counted toward the average score. The "Priority Ranking" for each implementation strategy was determined based on the relative values of the "Average Score", with a "Priority Ranking" of 1 representing the highest priority (i.e., highest "Average Score") for the HHPC as a whole, and with an increase in "Priority Ranking" value representing a corresponding decrease in priority for the Committee.

The specific recommendation from Section 6.1 which corresponds to each implementation strategy, and the respective priority ranking, is summarized in the tables presented in Sections 6.2.1 through 6.2.6, below. A tabulation of the municipalities' responses to the "Priority Ranking Form" is provided in Appendix D of this report.

Although the priority rankings correlate to the composite scores assigned by the representatives of all nine HHPC member municipalities, and therefore can be taken as an indication of the regional priorities on a harbor-wide basis, it is important to recognize that the ranking assignments may not reflect local priorities. In fact, it is clear from the individual scores assigned by the various municipalities (see Appendix D) that certain of the implementation strategies which are somewhat lower priorities for the entire HHPC are, nonetheless, high priorities for action at a more localized level. For example:

- Recommendation 1-3.1 (dredging of Glen Cove Creek – see Section 6.2.2, item #1) has an overall Priority Ranking of 28, based on an average score of 2.86, derived from individual scores that were either 2 or 3, except that the score assigned by the City of Glen Cove was 5.

- Recommendation 3-1.5 (acquisition of Sea Isle property – see Section 6.2.2, item #11) has an overall Priority Ranking of 38, based on an average score of 1.67, derived from individual scores ranging from 0 through 2, except that the score assigned by the Village of Sea Cliff was 4.

- Recommendation 1-3.3 (re-contouring of lower harbor – see Section 6.2.2, item #17) has an overall Priority Ranking of 39, based on an average score of 1.50, derived from individual scores that were either 1 or 2, except that the score assigned by the Village of Roslyn was 4.

- Recommendation 2-1.5 (reestablishment of passenger ferry service in Glen Cove Creek – see Section 6.2.5, item #5) has an overall Priority Ranking of 36, based on an average score of 2.25, derived from individual scores that ranged from 0 through 3, except that the score assigned by the City of Glen Cove was 5.

Some of the recommended implementation strategies have already been subject to grant applications, or have been initiated or even completed by the HHPC and its member municipalities. Appendix E contains a summary of the status of these ongoing initiatives.

6.2.1 General Recommendations

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. Adoption of HMP by all involved municipalities.	ALL	4.67	1	All Municipalities
2. Harbor Management Map.	1-1.1	4.56	2	All Municipalities
3. Redevelop Glen Cove Creek waterfront with mixed uses, consistent with *The Glen Cove Creek Revitalization Plan*.	2-1.1	3.57	14	C. of Glen Cove
4. Redevelop Glenwood Landing waterfront area in the Town of Oyster Bay consistent with the *Glenwood Landing Waterfront Redevelopment and Revitalization Plan.*	2-1.2	3.71	11	T. of Oyster Bay
5. Pursue non-point mitigation strategies recommended in *Water Quality Improvement Plan*, including local laws for the protection of steep slopes, stormwater management, and erosion and sediment control, as well as continuing studies to identify and characterize stormwater outfalls.	5-3.1 and 5-6.1	4.44	3	HHPC & All Municipalities
6. Comply with task requirements of Phase II Notices of Intent.	5-3.2, 5-4.1, and 9-2.2	4.44	3	HHPC & All Municipalities
7. Develop and implement program of enhanced public education.	9-2.1, 1-1.1, 1-2.2, 5-1.2, 5-2.1, 5-4.6, 5-5.2, and 5-9.4	3.78	9	HHPC

6.2.2 Recommended Projects

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. Dredge Glen Cove Creek, as needed.	1-3.1	2.86	28	U.S. Army Corps of Engineers
2. Dredge shorefront facilities of water-dependent uses, as needed, with costs borne by facility owners/operators.	1-3.2	2.14	37	Various Parties
3. Restore deteriorated public access facilities	4-1.3	3.50	16	Multiple Municipalities
4. Augment public access.	4-1.4	3.56	14	Multiple Municipalities
5. Span gaps in existing trail/walkway system; maximize length of continuous trailway.	4-3.1	3.67	12	Multiple Municipalities
6. Acquire remaining parcels for Hempstead Harbor Trailway, and continue this trail through Flower Hill and Roslyn.	4-3.2	3.44	17	HHPC; V. of Flower Hill & Roslyn
7. Provide continuous pedestrian access along Glenwood Landing waterfront in Town of Oyster Bay.	4-3.3	3.14	23	T. of Oyster Bay
8. Provide waterfront promenade as part of redevelopment of Glen Cove Creek area.	4-3.4	3.57	14	C. of Glen Cove
9. Provide new facilities for hand-launched boats.	4-4.1 and 4-4.2	3.13	24	Multiple Municipalities
10. Undertake wetland restoration.	5-1.1	3.67	12	HHPC & Multiple Municipalities
11. Seek to acquire Sea Isle property.	3-1.5	1.67	38	HHPC & C. of Glen Cove
12. Provide enhanced signage regarding prohibition on personal watercraft operation in lower harbor.	5-2.3	2.88	27	HHPC
13. Provide additional vessel waste pumpout facilities. Obtain funding for the proper maintenance of existing facilities.	5-5.4	3.25	20	HHPC & Various Parties

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
14. Provide standardized signage.	5-12.7	2.56	33	HHPC
15. Install informational signage regarding historic resources.	6-3.1	2.67	31	HHPC
16. Provide enhanced linkages to downtown areas.	7-1.1 and 7-1.2	2.63	32	Multiple Municipalities
17. Pursue re-contouring of lower harbor.	1-3.3	1.50	39	HHPC & V. of Roslyn

6.2.3 Recommended Local Laws

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. Adopt special waterfront zoning in Town of Oyster Bay portion of Glenwood Landing, as recommended in *Glenwood Landing Waterfront Redevelopment and Revitalization Plan*. **This rezoning was enacted by the Oyster Bay Town Board in January 2004.**	2-1.2	3.71	11	T. of Oyster Bay
2. Consider possible local laws governing replacement and maintenance of subsurface sewage disposal systems.	5-4.2 and 5-4.3	2.88	27	HHPC & Multiple Municipalities
3. Rezone North Shore Country Club parcel in Town of Oyster Bay.	5-4.4	3.14	23	T. of Oyster Bay
4. Institute "need-based" mechanism for evaluating applications for shoreline structures, and ensure adequate long-term maintenance of such structures.	5-11.1 and 5-11.2	2.78	29	All Municipalities
5. Amend existing local laws, as necessary, to enhance protection of historic resources.	6-2.1	2.78	29	All Municipalities
6. Adopt Waterways Local Laws.	8-3.1	3.50	16	All Municipalities

6.2.4 Recommended Investigations

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. Address deficiencies in moorings for barges associated with aggregate trans-shipment facilities on west side of harbor.	1-1.2	3.11	25	HHPC & T. of No. Hempstead
2. Investigate jurisdictional responsibility for navigation aids in harbor.	1-6.1	2.75	30	HHPC
3. Undertake comprehensive planning analysis of North Hempstead waterfront in Glenwood Landing.	2-1.3	3.43	18	T. of No. Hempstead
4. Examine appropriateness of current residential zoning of aggregate trans-shipment site on west side of harbor.	2-1.4	3.17	22	T. of No. Hempstead
5. Identify land acquisition priorities, focusing on 21 Quality Communities parcels.	3-1.2	3.38	19	HHPC
6. Develop program of improvements for parking and roadway facilities.	4-2.1	2.75	30	HHPC & Multiple Municipalities
7. Review local vessel regulations.	5-2.2	3.13	24	HHPC & All Municipalities
8. Investigate scope of water quality impacts caused by subsurface sewage disposal systems.	5-4.2	3.44	17	HHPC & Multiple Municipalities
9. Investigate feasibility of public sanitary sewage collection in Sea Cliff, Glenwood Landing, and Beacon Hill Colony.	5-4.7	3.25	20	HHPC; T. of No. Hempstead & Oyster Bay; V. of Sea Cliff
10. Continue water quality monitoring in harbor. Obtain funding to analyze water quality data.	5-6.2 and 5-8.1	4.67	1	HHPC
11. Undertake comprehensive inventory and analysis of historic resources.	6-1.1	2.44	34	HHPC

6.2.5 Recommended Procedural Actions

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. HHPC to continue interaction with key harbor users.	1-1.4 and 8-1.1	4.22	4	HHPC
2. Execute inter-municipal agreements to expand and coordinate patrols in harbor.	1-2.1, 1-5.1, and 1-5.2	3.63	13	All Municipalities
3. Whenever practicable, employ dredged material for beneficial reuse.	1-3.4	3.67	12	Various Parties
4. Continue to monitor new/expanded docking structures.	1-4.1 and 1-4.2	2.89	27	HHPC & All Municipalities
5. Continue to seek re-establishment of ferry operation in Glen Cove Creek.	2-1.5	2.25	36	C. of Glen Cove
6. Evaluate consistency with HMP as part of SEQRA review process for development applications involving 21 Quality Communities parcels.	3-2.1	3.38	19	HHPC & Multiple Municipalities
7. HHPC to participate in public review for any remediation project in harbor area.	3-3.2	3.56	16	HHPC
8. HHPC to work with communities to identify projects to enhance public access.	4-1.7	4.22	4	HHPC & Multiple Municipalities
9. Seek federal No-Discharge Zone designation for entire harbor.	5-5.1	3.78	9	HHPC & All Municipalities
10. HHPC to maintain ongoing dialogue with operators of petroleum transfer/storage facilities.	5-7.1	3.44	17	HHPC
11. Provide suitable oil spill contingency plans.	5-7.2	4.00	7	Various Parties
12. Deploy contaminant booms whenever practicable.	5-7.3	4.13	5	Various Parties
13. Provide adequate waste collection receptacles.	5-9.1	3.38	19	Various Parties

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
14. Undertake timely clean-out of storm drainage systems.	5-9.2	4.56	2	All Municipalities
15. Step up surveillance of derelict structures in harbor and along shoreline.	5-9.3	3.38	19	HHPC & All Municipalities
16. Require visual mitigation for water-dependent uses during site plan review; provide adequate long-term maintenance of water-dependent facilities.	5-12.5	3.25	20	All Municipalities
17. Promote use of native species during site plan review.	5-12.6	3.67	12	HHPC
18. Open historical resources to the public, whenever practicable.	6-3.2	3.11	25	Various Parties
19. HHPC to serve as facilitator during implementation phase of HMP.	8-2.1	4.11	6	HHPC
20. Improve inter-municipal notification of proposed actions.	8-4.1	3.67	12	HHPC & All Municipalities

6.2.6 Recommended Policy Standards

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
1. Ensure that new docking structures do not interfere with pedestrian passage along shoreline.	1-4.3	3.44	17	HHPC & All Municipalities
2. Balance economic revitalization and environmental impacts in evaluating application for development/redevelopment of 21 Quality Communities parcels.	3-1.1	3.63	13	HHPC & All Municipalities
3. Overall, balance public land acquisition with revenue-generating uses.	3-1.3	3.50	16	HHPC & All Municipalities
4. Base public land acquisition on identified need for expanded public access.	3-1.4	3.88	8	HHPC & All Municipalities
5. Based contaminant remediation objectives on intended end use.	3-3.1	3.50	16	HHPC & All Municipalities

Implementation Strategy	Recommendation #	Average Score	Priority Ranking	Responsibility
6. Maintain existing public access facilities. Provide compensatory access in cases where existing access is lost.	4-1.1 and 4-1.2	4.13	5	HHPC & All Municipalities
7. Ensure that improvements to public access facilities are compatible with surrounding uses.	4-1.5	3.67	12	HHPC & All Municipalities
8. Seek early public input regarding significant expansions to public access facilities.	4-1.6	3.78	9	HHPC & All Municipalities
9. Provide public access in connection with development of 21 Quality Communities parcels.	4-1.8 and 4-3.5	3.75	10	HHPC & All Municipalities
10. Provide sufficient stormwater storage for new paved surfaces.	4-2.2	4.67	1	HHPC & All Municipalities
11. Comply with ADA for new trailway segments.	4-3.6	2.78	29	HHPC & All Municipalities
12. Minimize environmental impacts of development of Sea Isle property.	5-1.3	3.50	16	HHPC & C. of Glen Cove
13. Closely scrutinize sanitary wastewater disposal provisions for development in areas that are unsewered.	5-4.5	3.22	21	HHPC & Multiple Municipalities
14. Require vessel waste pumpout facility for new or expanded marina.	5-5.3	4.00	7	HHPC & All Municipalities
15. Seek participation of baymen in any effort to reopen shellfish beds.	5-6.3	3.11	25	HHPC & All Municipalities
16. Maintain original landforms.	5-12.1	2.78	29	HHPC & All Municipalities
17. Avoid activities that introduce visual interruptions to natural landscapes.	5-12.2	3.22	22	HHPC & All Municipalities
18. Preserve vacant parcels that contribute to visual quality.	5-12.3	3.11	25	HHPC & All Municipalities
19. Restore deteriorated visual elements.	5-12.4	3.75	10	HHPC & All Municipalities